

OPERATION AND MAINTENANCE PLAN

**PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

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GLOSSARY

BSA	Buffalo Sewer Authority
HASP	Health and Safety Plan
HDPE	High Density Polyethylene
HNO ₃	Nitric Acid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M Plan	Operation and Maintenance Plan
Order	Order on Consent
PC	Personnel Computer
PLC	Programmable Logic Controller
PP	Priority Pollutants
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RA	Remedial Action
Site	Pfohl Brothers Landfill Site
SSPL	Site Specific Parameter List
Steering Committee	Pfohl Brothers Landfill Site Steering Committee
TCL/TAL	Target Compound List/Target Analyte List
Town	Town of Cheektowaga
VFPE	Very Flexible Polyethylene

1.0 INTRODUCTION

This report presents the Operation and Maintenance Plan (O&M Plan) for the Pfohl Brothers Landfill Site (Site) located in Cheektowaga, New York. The purpose of this O&M Plan is to provide the detailed operation, maintenance, and monitoring requirements for the various components of the Remedial Action (RA) that has been constructed at the Site. The O&M activities will be performed by the Town of Cheektowaga (Town) or engineers/contractors hired by the Town.

This O&M Plan has been prepared in accordance with the document entitled "Final (100%) Design Report, Remedial Action" dated March 2001. The O&M Plan presented in this document was prepared by the Pfohl Brothers Landfill Site Steering Committee (Steering Committee) pursuant to Order on Consent Index #B9-0048-84-10 (Order), which has an effective date of April 9, 2001.

1.1 SCOPE OF THE OPERATION AND MAINTENANCE PLAN

The purpose of the O&M Plan is to detail the operation, maintenance, and monitoring requirements for the following RA components:

- i) landfill cap;
- ii) groundwater collection and discharge system;
- iii) wetlands mitigation; and
- iv) other Site areas (access roads, perimeter fence).

This report is organized as follows:

Section 1.0	Introduction;
Section 2.0	Selected Remedial Action;
Section 3.0	Monitoring, Testing, and Records;
Section 4.0	Operation of Site Systems
Section 5.0	Site Maintenance;
Section 6.0	Reports;
Section 7.0	Citizen Participation;
Section 8.0	Personnel;
Section 9.0	Health and Safety Plan;

Section 10.0 Records;
Section 11.0 Emergency Contingency Plan; and
Section 12.0 Record Drawings.

1.2 REVISIONS TO THE O&M PLAN

This O&M Plan presents the details of the operation, maintenance, and monitoring requirements of the RA components representative of the constructed remedy. The materials of construction presented in the O&M Plan are those used to construct the remedy.

At the end of the first year of operation, the O&M Plan will be further amended (as necessary) to reflect experience gained during the first year.

2.0 CONSTRUCTED REMEDIAL ACTION

The RA selected by the New York State Department of Environmental Conservation (NYSDEC) for the Site is presented in the Order which references the document entitled "Final (100%) Design Report, Remedial Action" dated March 2001.

The major components of the Site remedy are summarized as follows:

- i) landfill cap system; and
- ii) overburden groundwater collection and discharge system (perimeter and interior).

A description of the Site remedy is provided in the following sections.

2.1 LANDFILL CAP SYSTEM

Select perimeter areas where the waste thickness was typically less than 6 feet were excavated and consolidated on the remaining 95± acres of the Site. The consolidated area encompassed an area of approximately 34 acres. A landfill cap was placed over the consolidated wastes in Areas B and C of the Site to reduce infiltration of precipitation into the landfill, prevent erosion of landfill materials, and eliminate direct human contact with the landfill materials. The landfill cap extends beyond the perimeter barrier system to limit introduction of surface runoff into the groundwater collection system. The cap consists of the following layers, in descending order:

- i) vegetative cover;
- ii) 6-inch soil layer capable of supporting vegetation;
- iii) 24-inch barrier protection layer;
- iv) low permeability membrane (40-mil very flexible polyethylene (VFPE)); and
- v) 6-inch gas venting layer.

The landfill cap layers are briefly described in the following subsections. A cross-section of the low permeability cap is shown on Figure 2.1.

2.1.1 EXCAVATED AND CONSOLIDATED WASTE

Existing Site wastes were excavated from select perimeter areas of the Site where the waste was typically less than 6 feet thick. The excavated waste was consolidated on the remaining 95± acres to bring the existing ground surface of the Site up to the appropriate sub-base contours. The excavated areas outside the perimeter barrier system were backfilled with clean imported soil that was shaped to drain and overlain with 4 inches of soil capable of supporting vegetative growth. The excavated areas inside the perimeter barrier system adjacent to Aero Drive were backfilled with clean imported soil with a maximum hydraulic conductivity of 5×10^{-6} cm/sec. This soil was also shaped to drain and overlain with 4 inches of soil capable of supporting vegetation.

2.1.2 GAS VENTING LAYER

The gas venting layer was constructed using 6 inches of imported porous clean soil. The purpose of the gas venting layer is to provide sufficient void space to allow any generated landfill gases to be able to migrate to the passive gas vents.

The gas venting layer used was a rounded stone material with a minimum hydraulic conductivity of 1×10^{-3} cm/sec.

2.1.3 LOW PERMEABILITY MEMBRANE

A low permeability membrane consisting of a continuous 40-mil VFPE was installed to reduce the infiltration of precipitation into the Site. The warranty for the membrane is included in Appendix E.

2.1.4 BARRIER PROTECTION FILL LAYER

A 24-inch barrier protection layer of clean imported soil was placed over the low permeability membrane. This layer provides both physical protection (including protection from root growth and burrowing animals) and frost protection for the low permeability membrane.

2.1.5 SOIL CAPABLE OF SUPPORTING VEGETATIVE GROWTH

A 6-inch thick layer of soil capable of supporting vegetative growth was placed over the barrier protection layer to support a vegetative cover over the cap and to provide additional frost protection for the low permeability membrane.

2.1.6 VEGETATIVE LAYER

The vegetative layer was planted over the entire 130-acre Site including on the backfilled areas outside of the perimeter barrier system and on the surface of the landfill cap. The vegetative layer is essential for maintaining the long-term effectiveness of the landfill cap. The vegetation will serve to:

- i) stabilize the soil against erosion due to runoff and wind;
- ii) minimize percolation of precipitation;
- iii) promote evapotranspiration of soil moisture; and
- iv) improve the aesthetics of the backfilled area and the cap.

The vegetative layer in the area covered with the low permeability membrane will be maintained by appropriate mowing so that root penetration remains within the soil and barrier protection layers and will not penetrate to the depth of the VFPE membrane.

2.1.7 GAS VENTING SYSTEM

The generation rate of gas in the landfill is very low, primarily due to the age and composition of the waste. The objective of the gas venting system is to prevent structural damage to the cap caused by gas build-up beneath the liner. Lateral subsurface off-Site gas migration will be controlled by the perimeter hydraulic barrier.

Forty-nine gas vents (1 vent per 2 acres) were installed that penetrate the low permeability membrane of the landfill cap. The vents are capable of conveying any gas from beneath the low permeability membrane of the cap to the atmosphere. Any accumulating gas will migrate through the gas venting layer to the vents.

The location of the gas vents is shown on Figure 2.2. A typical detail of a gas vent is shown on Figure 2.3.

2.2 OVERBURDEN GROUNDWATER COLLECTION AND DISCHARGE SYSTEM

The groundwater collection and discharge system is designed to hydraulically isolate Areas B and C from the underlying and surrounding hydrogeologic environment. The system consists of 9,959 feet of perimeter collection drain, a 40-mil VFPE barrier wall, 26 collection drain access manholes and 6 wet wells, forcemain piping and forcemain access manholes, pumps, electrical conduit, a monitoring station, and control building.

The perimeter collection drain consists of an 8-inch diameter perforated high density polyethylene (HDPE) collection pipe in an infiltration trench filled with coarse granular material. The perimeter collection drain alignment is shown on Figure 2.4. A typical cross-section of the perimeter collection drain is shown on Figure 2.5.

Wet wells are located at low points in the perimeter collection drain as shown on Figure 2.4. The wet wells are constructed of precast concrete with a nominal barrel diameter of 6 feet. The wet wells are equipped with lockable manhole covers, polyethylene-coated ladder rungs, and platforms for maintenance access. Each wet well has a sump that extends approximately 2 feet below the lowest collection pipe invert entering the wet well. Each of the six wet wells is equipped with an electric, submersible pump which pumps the collected groundwater by forcemain to a newly installed 15-inch diameter sanitary sewer on the south side of Aero Drive. The new sanitary sewer connects to an existing 15-inch diameter sanitary sewer on Rein Road south of Aero Drive. The location of the forcemain and new sanitary sewer is shown on Figure 2.4. A typical wet well detail is shown on Figure 2.6.

The forcemain consists of various diameter HDPE pipe installed at a minimum depth of 5 feet below ground surface along the drain collection pipe alignment. Pipe joints are butt fused to provide a leak-tight system. The forcemain is accessible through the drain collection pipe access manholes and wet wells. The forcemain alignment is shown on Figure 2.4. A cross-section of a manhole showing the forcemain with a section of pipe which is removable for maintenance access is shown on Figure 2.7.

Access manholes for inspection and maintenance purposes were installed at each significant change in direction of the perimeter collection drain alignment. Three cleanouts were installed on the interior collection system. Access manhole locations are shown on Figure 2.4. Access manholes are constructed of precast concrete with a nominal barrel diameter of 4 feet. The manholes are equipped with polyethylene-coated ladder rungs for maintenance access. A typical access manhole is shown on Figure 2.7.

A vertical barrier wall, which significantly reduces groundwater flow from off-Site wetland areas, was installed along the entire length of the perimeter collection system. The barrier wall consists of a 40-mil VFPE membrane keyed into the clay/till confining unit along the external edge of the perimeter collection drain alignment. A geotextile fabric was installed between the barrier wall VFPE and the collection pipe drainage media to prevent damage to the VFPE. The warranty for the geotextile is included in Appendix E. The barrier wall alignment is shown on Figure 2.4 and a typical cross-section is shown on Figure 2.5.

Electrical power and control wiring is contained in a 2-inch diameter galvanized steel conduit with exterior polyvinyl chloride (PVC) coating and interior urethane coating. The conduit was installed approximately 2.5 feet below ground surface along the drain collection pipe alignment and is accessible through the drain collection pipe access manholes and wet wells. Conduit fittings are constructed of the same material as the conduit. The conduit connects all of the wet well pumps to a control building. The conduit alignment is shown on Figure 2.4. The conduit locations in the access wet wells and manholes are shown in Figures 2.6 and 2.7, respectively, and the conduit location in the collection drain trench is shown on Figure 2.5.

Brightly colored, plastic, magnetic warning tape was installed above the conduit, the collection drain, and the forcemain piping. The tape is detectable by a metal detector at a depth of 3 feet. Tape colors are as follows:

- electric - red on silver;
- collection drain - green on silver reading "Buried Sewer Line Below"; and
- forcemain piping - gold on silver reading "Buried Forcemain Below".

The wet well pumps are controlled from a control building located at the southwest corner of Area B.

The quality of the groundwater discharge to the sanitary sewer is monitored using a sample port in the metering chamber south of MH24. Monitoring will be conducted via grab samples and using a 24-hour continuous sampling device. The discharge flow rate is monitored by a flow meter installed in the metering chamber. Both instantaneous and total flows are measured. The flow readings are displayed in both the metering chamber and control building.

3.0 MONITORING, TESTING, AND RECORDS

3.1 MONITORING PLAN

Regular monitoring at the Site, including specific sample collection, sample analyses, and reporting tasks must be completed in order to ensure the integrity and evaluate the performance of the Site remedial components and to meet monitoring requirements. Regular monitoring will be required for the following Site media:

- i) groundwater;
- ii) surface water;
- iii) wetlands; and
- iv) groundwater discharge to the sanitary sewer system.

3.1.1 GROUNDWATER MONITORING

A groundwater monitoring program has been established to monitor the effectiveness of the overburden groundwater collection system. The objective of this monitoring program is to provide data for the demonstration of hydraulic containment and to provide data on the Site-related contaminated groundwater in the overburden.

The groundwater monitoring program includes both hydraulic monitoring and chemical monitoring. The data collected will be used to evaluate the performance of the groundwater collection system and to determine the necessity of contingency measure implementation. The data will also be used to determine when operation of the groundwater collection system may cease (subject to NYSDEC approval).

3.1.1.1 MONITORING WELL NETWORK

Several monitoring wells and surface water staff gauges have been installed to monitor the performance of the remedy. These monitoring locations have been incorporated into a hydraulic and groundwater quality monitoring program described in the following subsections. The wells, manholes, wet wells, and surface water staff gauges that comprise the monitoring network are shown on Figure 3.1.

The network of wells, and staff gauges for the groundwater monitoring program will be evaluated after 5 years to assess whether each location provides useful information and to revise the network, as required.

3.1.1.2 HYDRAULIC MONITORING

Hydraulic monitoring consists of the collection of water levels in monitoring wells and surface water bodies to determine groundwater elevations and subsequently groundwater flow directions. Water levels in nine monitoring wells will be monitored concurrently with corresponding manholes and wet wells to ensure groundwater around the Site perimeter flows horizontally toward the overburden groundwater collection system. Groundwater flow adjacent to Aero Creek will be monitored by measuring water elevations at six staff gauge locations in the Creek with corresponding manholes and wet wells. The horizontal movement of perimeter overburden groundwater toward the collection system prevents Site chemicals from migrating off Site through the overburden. Perimeter hydraulic monitoring locations are shown on Figure 3.2 and listed in Table 3.1. Groundwater elevations will be determined at the following frequency:

- i) once every two weeks for 3 months after groundwater collection system startup;
- ii) monthly for the remainder of the first year of operation; and
- iii) quarterly thereafter.

After the initial 5-year period, the hydraulic monitoring program will be assessed to determine the suitability of the program and any need for modifications.

3.1.1.3 GROUNDWATER QUALITY MONITORING

Groundwater quality monitoring consists of the collection of water samples from monitoring wells and the analysis of these samples to determine the concentrations of chemicals in the groundwater. Samples will be collected from 13 overburden wells and six bedrock wells shown on Figure 3.3. The initial round of groundwater samples will be collected after official startup of the overburden groundwater collection system (i.e., when all the monitoring wells have been installed and developed and the Final Inspection has been completed). This will provide baseline levels to be used in evaluating on-going groundwater monitoring results. Monitoring will then be conducted semi-annually, except for radiochemistry which will be conducted annually.

After the initial two rounds of semi-annual groundwater monitoring have been completed, the analytical list shown in Table 3.2 may be revised (i.e. develop a Site Specific Parameter List (SSPL) for groundwater) with the concurrence of the NYSDEC. After the third year of monitoring, an evaluation will be made to determine the need for continued Dioxin/Furan analysis. After the initial 5-year period, the program will be assessed to determine the suitability of the sampling locations and monitoring parameters and to determine the suitability of the program. The program will be assessed every 5 years until groundwater quality monitoring is no longer required.

Groundwater quality monitoring will include field (pH, conductivity, temperature, and turbidity) and laboratory analysis of samples. Laboratory analysis will include the compounds and analytes identified in Table 3.2. Groundwater sampling activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP) included as Appendix D.

3.1.1.4 GROUNDWATER MONITORING CONTINGENCY PLAN

The groundwater monitoring program will monitor the performance of the groundwater collection system with respect to its design criteria and requirements. If the system is not performing as designed or required, considering the time required to substantially attain steady-state conditions, contingency actions will be required. Detailed plans outlining contingency actions will be submitted to the NYSDEC for review and approval prior to implementation.

After any significant adjustments to the groundwater collection system, the frequency of water level monitoring will be increased to monthly for 3 months.

3.1.2 SURFACE WATER AND SEDIMENT MONITORING PROGRAM

Surface water impacts by pre-RA activities have not occurred at the Site. Therefore, it is anticipated that impacts by post-RA activities also will not occur. An annual surface water and sediment quality monitoring program will be implemented to verify that surface water and sediment quality has not been impacted by RA activities. Surface water and sediment samples will be collected annually for 2 years. These sampling events will occur during wet weather. This program will terminate after 2 years if surface water and sediment quality remains unimpacted. If the surface water or sediment is determined to be impacted, a SSPL for surface water or sediment will be

developed using the results of the two annual monitoring events with the concurrence of the NYSDEC. The surface water/sediment sampling locations are shown on Figure 3.4.

The monitoring will include field (pH, conductivity, temperature, and turbidity) of the surface water samples and laboratory analysis of samples. Laboratory analysis will include the compounds identified in Table 3.3. Surface water and sediment sampling activities will be conducted in accordance with the QAPP.

3.1.3 WETLANDS MONITORING PROGRAM

New and existing wetlands will be monitored to evaluate the success of wetland mitigation activities and to assess impacts to the long-term integrity of the wetlands. The monitoring program will include the evaluation of water levels and vegetation during post-construction conditions.

Monitoring of vegetation will be completed to ensure sufficient plant growth of planted vegetation. Monitoring will be accomplished by evaluating vegetation within square meter plots located every 50 feet along permanent representative transects for each habitat type. A minimum of two transects will be located within each habitat type. Monitoring evaluation will include percent cover, Wetland Frequency Indicator Value, and quantity of each species and shall be compared to the measurable criteria below:

Percent Cover

<i>Measurable Criteria</i>	<i>Percent Cover ($\pm 5\%$)</i>
First Year Goal	40%
Second Year Goal	50%
Third Year Goal	60%

The percent cover criteria apply to all wetland types other than open water or emergent wetlands. Measurements from more than one comparable square meter plot in the same habitat area will be averaged to obtain the value for overall habitat.

The criteria for vegetation establishment are:

<i>Wetland Type</i>	<i>Wetland Frequency Indicator Criteria</i>				
	<i>Time Since Substantial Completion (Years)</i>				
	1	2	3	4	5
Emergent	3.00	2.67	2.33	2.00	1.67
Wet Meadow	3.00	2.75	2.50	2.25	2.25

Wetland water levels will be measured at five wells (GW-3S, GW-4S, GW-11S, GW-27S, and GW-34S) and six surface water staff gauges (SG-1 to SG-6), as shown on Figure 3.5. The frequency will be weekly for the first month, monthly for the remainder of the first year and quarterly thereafter for the initial 5-year period commencing when wetlands mitigation construction is complete. Water level criteria for the two types of wetlands are:

	<i>Water Level (inches)</i>	
	<i>Wet Season</i>	<i>Dry Season</i>
Wet meadow	0 to 6	-6 to 0
Emergent	6 to 36	0 to 24

The monitoring of mitigation wetlands will be conducted for a period of five full years after completion of construction. Once the 5-year monitoring period is complete, an assessment will be performed to determine if continued monitoring is required.

3.1.4 GROUNDWATER DISCHARGE MONITORING PROGRAM

Groundwater from the perimeter collection system will be discharged to the Buffalo Sewer Authority (BSA). The Site discharge is classified as an industrial discharge and, as such, requires a monitoring station. The metering chamber, which is located near MH25 at the southwest corner of Area B (Figure 3.1), will allow the volume of discharge to be verified by the BSA. The BSA will be given Site access to perform confirmation monitoring.

The Site discharge permit governs the monitoring required for the collection system discharge. A 3-year permanent permit will be obtained from the BSA by the Town.

Monitoring will be performed according to BSA requirements. The initial monitoring parameters are listed in Table 3.4.

3.1.5 SITE ACCESS REQUIREMENTS

Prior to commencing any monitoring activity on private property, personnel must ensure that access to the lands has been granted from the respective landowners. The private lands in the vicinity of the Site where monitoring/sampling activities will occur are all under current access agreements which allow personnel access to the land for the purposes of conducting monitoring or sampling activities. Each landowner whose property will be accessed for monitoring or sampling activities will be notified as required by access agreements. The contact person for each property owner is listed in Table 3.5. Existing access agreements are included in Appendix F.

3.2 SAMPLING PLAN

The following subsections detail the required procedures for sampling groundwater, surface water, and the discharge from the overburden groundwater collection system. Procedures and protocols outlined in this Sampling Plan will be performed in conjunction with those presented in the Health and Safety Plan (HASP) included as Appendix C and the QAPP (Appendix D).

During sample collection activities, the NYSDEC may collect split samples.

3.2.1 GENERAL SAMPLING PROTOCOLS

Employ the following protocols during all sampling throughout this program:

1. Clean all sampling instruments and equipment in accordance with the protocols presented in Section 3.2.9 prior to sampling at each location.
2. Use a new pair of disposable latex gloves at each sampling location. Undertake additional glove changes as conditions warrant.
3. Handle all sampling-generated wastes such as gloves, tyveks, etc., in accordance with Section 3.2.8.

4. Ice all samples collected for off-Site chemical analysis in laboratory supplied coolers after collection and labeling (refer to Section 3.2.6 for labeling requirements). Fill any remaining space with packing to cushion the containers within the shipment coolers. Seal each cooler with a transportation security seal containing the sampler's initials. Then seal the cooler with packing tape.
All samples must be delivered to the off-Site laboratory by commercial courier or sampling personnel, within 24 to 48 hours from day of collection.
5. Samples will remain under the control of the Sampler until relinquished to the laboratory or commercial courier under chain-of-custody protocols (see QAPP).
6. Always return samples to locked storage at the end of each day. Samples must not be stored overnight in areas other than a secured storage area. Sampling containers must not be stored in enclosures containing equipment which use any form of fuel or volatile petroleum based product.

Complete the following tasks before any sampling activities:

1. Review the HASP, the QAPP, and the procedures for the sampling that will be performed.
2. Notify all required private property owners for property access as required by access agreements.
3. Make proper arrangements with the laboratory with regard to sample containers and the sampling date. Review Quality Assurance/Quality Control (QA/QC) requirements.
4. Assemble equipment and supplies using the appropriate checklists (see Appendix A - Standard Forms).

Additional protocols specific to each sampling method are presented in the following subsections.

3.2.2 MONITORING WELL PURGING

Use the following procedures to purge monitoring wells prior to sampling.

1. Complete the "Groundwater Sampling Equipment and Supply Checklist" (Form 1) before purging commences and complete the purging section of the "Groundwater Sampling • Completion Checklist" (Form 2) as the work progresses.

2. All personnel involved in purging or sampling must wear protective clothing such as Tyvek coveralls, rubber boots, and nitrile gloves as specified in the HASP.
3. Inspect the well. Determine if the cap and lock are secure or if they have been tampered with. If the well is unlocked, replace the lock. Note any cracks in the protective casing and/or surface seal as well as any subsidence in the vicinity of the well. Complete the "Well Inspection Summary" form (Form 3). Note the results of the inspection even if the well is in perfect condition.
4. Measure the water level in the well to ± 0.01 foot prior to purging. Repeat water level measurements to ensure the level is stable. Compare these results to previous water level measurements to ensure that the correct well is being purged for sampling. Record the water level using Form 4.
5. The objective of purging is to extract a sufficient volume of water prior to sampling to ensure that the sample is representative of the actual groundwater conditions.

Remove a minimum of three well volumes of water when possible. A 2-inch diameter well contains 0.16 gallons of water per foot of casing below the water level and a 4-inch diameter well contains 0.65 gallons of water per foot of casing below the water level. After each well volume is removed, collect and field analyze a purge water sample for temperature, pH, conductivity, and turbidity. Calibrate field instruments as described in the QAPP prior to analysis. Record all readings on Form 4. Continue purging until a maximum of five well volumes have been removed or until three consecutive, consistent readings of conductivity, temperature, and pH are obtained and the turbidity is less than 50 NTU. Conductivity, temperature, and pH readings are consistent if conductivity and temperature readings are within 10 percent of the average value or pH readings are within ± 1 pH unit of the average value. If the above criteria have not been met after the maximum five well volumes have been removed, a decision will be made by the sampling personnel, with NYSDEC concurrence regarding sampling of the well. Record the number of well volumes required to purge the well.

6. If recharge is insufficient to conduct the purging protocols described in Step 5 above, the well will be pumped/bailed to dryness on three consecutive days prior to sampling.
7. Acceptable equipment for water extraction during purging includes bailers, peristaltic pumps, bladder pumps, Waterra™ pumps, centrifugal, and submersible pumps.

8. Clean all water extraction equipment and field instruments (including the water level measuring device) prior to use at each new location in accordance with the protocols presented in Section 3.2.9.
9. Collect and store all purge waters for later disposal as described in Section 3.2.8.
10. Complete the "Groundwater Sampling • Well Purging Information Form" (Form 4).

3.2.3 MONITORING WELL SAMPLING

Following well purging, carry out sampling of the monitoring well according to the following protocols:

1. Collect samples as soon after purging as possible.
2. Complete the sampling section of the "Groundwater Sampling • Sample Collection Data Sheet" (Form 5) as sampling progresses.
3. Use a new pair of disposable nitrile gloves for sampling each well. Undertake additional glove changes as conditions warrant.
4. Collect samples from the monitoring well using either a bottom filling bailer with a stainless steel leader attached to a nylon or polypropylene rope or using a suitable sample pump. Use sampling bailers constructed of either teflon or stainless steel and use a new length of rope at each well. Suitable sampling pumps include peristaltic pumps and submersible pumps (for the semi-volatiles) and bladder pumps. If peristaltic or submersible pumps are used, collect the volatile portion using a bottom loading bailer prior to collection of the sample portion for the remaining parameters.

Prior to use at each new sampling location, clean the bailer or pump as specified in Section 3.2.9.

5. Collect a sufficient volume of groundwater for chemical analysis. Collect all required QA/QC samples as discussed in the QAPP.
6. Label sample containers as detailed in Section 3.2.6. Maintain a hard-cover, bound field book to record all groundwater samples and sampling events.
7. Clean all field equipment and instruments at the conclusion of sampling in accordance with the protocols presented in Section 3.2.9.
8. Complete the "Groundwater Sampling • Sample Collection Data Sheet" (Form 5).

As an option to the above procedures, a low stress purging system and/or dedicated sampling equipment may be used.

3.2.4 SURFACE WATER AND SEDIMENT SAMPLING

The objective of surface water and sediment sampling is to obtain samples that are representative of existing surface water and sediment conditions. It is important to obtain surface water samples that are unimpacted by the resuspension of sediment caused by sampling activities. Pre-plan the sampling sequence so that sampling commences at the farthest downstream sampling location and proceeds upstream. Surface water and sediment samples will be collected sequentially from location SW-1 to SW-8, always starting at SW-1 and finishing at SW-8.

Use the following procedures to collect surface water and sediment samples:

1. Complete the "Surface Water and Sediment Sampling Equipment and Supply Checklist" (Form 6) before sampling and complete the "Surface Water and Sediment Sampling • Completion Checklist" (Form 7) as the work progresses.
2. All personnel involved in surface water and sediment sample collection must wear protective, waterproof footwear and nitrile gloves as specified in the HASP. Always perform stream sampling in a team of at least two people. Have a safety line beside the water at all times in case of emergency.
3. Use a new pair of disposable nitrile gloves for each sample location. Undertake additional glove changes as conditions warrant.
4. Collect surface water samples first. Attach a pre-cleaned sample jar to a telescoping rod. While standing on the shore, completely submerge the inverted jar 6 inches below the water surface in the middle of the stream and then tilt the opening of the bottle upstream to fill it. If the sample bottles contain preservatives, use pre-cleaned unpreserved bottles to collect the samples, then transfer the sample to the appropriate preserved bottle. Collect a sample in a pre-cleaned unpreserved bottle and measure the pH, temperature, conductivity, and turbidity of the water. Calibrate field instruments as described in the QAPP prior to analysis. Record all readings on Forms 8 and 9.

Prior to use at each new sampling location, clean the telescoping rod and all field instruments as specified in Section 3.2.9.
5. Ensure the sample is as free of sediment as possible.

6. Collect sediment sample from the same horizontal location as the corresponding surface water sample by wading into the water from a downstream location to the sample location. Scoop the sediment sample, using a stainless steel spoon or scoop, from the upper two inches of the sediment. Scooping will occur in an upstream direction. The samples will be thoroughly mixed in a stainless steel bowl prior to placement into the appropriate sample container, except for samples collected for VOC analyses which will be placed directly into the appropriate sample containers.
7. Collect a sufficient volume of surface water and sediment for chemical analysis. Collect all required QA/QC samples as discussed in the QAPP.
8. Label sample containers as described in Section 3.2.6. Maintain a hard-cover, bound filed book to record all surface water and sediment samples and sampling events.
9. Clean all field equipment and instruments at the conclusion of sampling in accordance with the protocols presented in Section 3.2.9.
10. Complete the "Surface Water and Sediment Sampling • Field Information Form" (Form 8) and the "Surface Water and Sediment Sampling • Sample Collection Data Sheet" (Form 9).

3.2.5 GROUNDWATER DISCHARGE SAMPLING

Carry out sampling of the groundwater discharge to the sanitary sewer according to the following protocols:

1. Complete the "Groundwater Discharge Sampling Equipment and Supply Checklist" (Form 10) before sampling and complete the "Groundwater Discharge Sampling • Completion Checklist" (Form 11) as the work progresses.
2. Use a new pair of disposable nitrile gloves for sampling the discharge. Undertake additional glove changes as conditions warrant.
3. Collect samples from the discharge sampling port in the metering chamber. Allow the discharge to flow into a container for 10 seconds prior to sampling to ensure that a representative sample is collected.

Collect a sample in a pre-cleaned unpreserved bottle and measure the pH, temperature, conductivity, and turbidity of the water. Calibrate field instruments as described in the QAPP prior to analysis. Record all readings on Form 12.

Prior to use, clean all field instruments as specified in Section 3.2.9.

4. Collect a sufficient volume of groundwater discharge for chemical analysis. Collect all required QA/QC samples as discussed in the QAPP.
5. Label sample containers as described in Section 3.2.6. Maintain a hard-cover, bound field book to record all discharge samples and sampling events.
6. Clean all field instruments at the conclusion of sampling in accordance with the protocols presented in Section 3.2.9.
7. Complete the "Groundwater Discharge Sampling • Field Information Form" (Form 12) and the "Groundwater Discharge Sampling • Sample Collection Data Sheet" (Form 13).

3.2.6 SAMPLE CONTAINERS, PRESERVATION, AND LABELS

Required sample containers, sample preservation methods and maximum sample holding times are summarized in the QAPP.

Sample containers must be prepared using washing procedures that meet or exceed the requirements specified in the QAPP. Sample containers must be shipped to the Site in sealed containers from a single lot of prepared bottles.

Label sample containers with a unique sample identification number which will include the project number, the sampler's initials, the date, and the well number (e.g., 1979 MKS-09/18/95 - GW5D), the date and time, the parameters to be analyzed, and the sampler's initials.

3.2.7 PACKAGING AND SHIPPING

Prepare sample containers for shipment as follows:

1. Wipe containers to remove all debris/water using paper towels. Dispose paper towels with other contaminated materials.
2. Place clear, wide packing tape over sample label for protection.

Adhere to the following guidelines when packing the samples for shipment:

1. Plan time to pack the samples. Proper packing and manifesting takes time.
2. Always opt for more coolers and padding rather than crowd samples.

3. Do not bulk pack. Each sample must be individually padded.
4. Large glass containers (1 liter and up) require much more space between containers.
5. Do not rely on ice for padding because it reduces in volume when it melts.
6. When using ice as a cooling media, always double bag the ice in Zip-Lock™ bags.
7. Double-check to ensure all trip blanks have been included as specified in the QAPP.
8. Enclose the Chain-of-Custody form in a Zip-Lock™ bag.
9. Ensure custody seals (two, minimum) are placed on each cooler. For coolers with hinged lids, place both seals on the opening edge of the lid. For coolers with "free" lids, place seals on opposite corners of the lid. Place clear tape over the custody seal.
10. Ensure that all "Hazardous Material" stickers/markings have been removed from the coolers being used.

Samples must be shipped by overnight courier or delivered by the sample collection team. A great many shipping problems can be avoided by adhering to the following protocols:

1. Prior to the start of the field sampling, contact the carrier to determine if pick-ups can be made at the field site location. If pick-ups at the field site can be made, determine the "no-later-than" time for having the shipment ready.
2. If no pick-up is available at the Site, determine the nearest pick-up or drop-off location. Again, determine the "no-later-than" time for each location.
3. Allow sufficient time not only for packaging but also for delivery of samples, if this becomes necessary. Driving at high rates of speed in order to make the drop time is unacceptable.
4. Sample shipments must not be left at unsecured or questionable drop locations (i.e., if the cooler will not fit in a remote drop box, do not leave the cooler unattended next to the drop box).
5. Some overnight carriers do not provide "overnight" shipment to/from some locations. Do not assume; call the carrier in advance before the start of the field work.
6. Maintain copies of all shipment manifests in the field file.

3.2.8 HANDLING OF MATERIALS GENERATED DURING O&M ACTIVITIES

Containerize Personal Protective Equipment (PPE) and sampling refuse (i.e., paper towels, used tin foil) generated during the sampling activities in plastic bags and temporarily stage the bags on Site. Clearly label each bag. When a sufficient quantity of bags have been accumulated at the Site, ship them to a licensed off-Site disposal facility in accordance with all applicable Federal and New York State Regulations.

To the extent practical, collect all groundwater and collection system discharge extracted during monitoring activities and discharge it to the overburden groundwater collection system.

3.2.9 EQUIPMENT CLEANING PROTOCOLS

Clean all equipment used for the collection of samples for chemical analysis including bailers and pumps according to the following protocol unless precleaned equipment (from Supplier) is used:

- i) wash and scrub with low phosphate detergent;
- ii) tap water rinse;
- iii) rinse with 10 percent nitric acid (HNO_3 - ultrapure);
- iv) tap water rinse;
- v) a methanol rinse followed by hexane rinse (solvents must be pesticide grade or better);
- vi) thorough rinse with deionized demonstrated analyte free water supplied by the lab. The volume of water used must at least be five times the volume of solvent used in the above step;
- vii) air dry; and
- viii) wrap in aluminum foil for transport.

Tap water may be used from any municipal water treatment system. The use of an untreated potable water supply is not an acceptable substitute. If metals samples are not being collected, the 10 percent HNO_3 rinse may be omitted, and if organics samples are not being taken, the solvent rinse may be omitted.

Place all cleaned equipment on polyethylene sheeting or aluminum foil in order to avoid contacting a contaminated surface before use.

Before use and between each well, clean the water level measuring device, pH meter, conductivity meter, thermometer, and turbidity meter (nephelometer) by rinsing with detergent solution followed by a deionized water rinse. Solvent rinses must not be used because of their potential to damage the instruments.

Keep all spent cleaning solvents separate from the water washes. Treat/dispose the water washes using the procedures presented in Section 3.2.8 for groundwater. Submit the spent cleaning solvents for analysis to determine appropriate disposal/treatment requirements.

3.3 ANALYTICAL PROGRAM

The Analytical Program which includes analytical schedules and methods, laboratory QC samples, reporting and deliverables, special analytical protocols, laboratory audits, and data audits is detailed in the QAPP.

3.4 HYDRAULIC MONITORING PROCEDURES

The following subsection details the required procedures for measuring water levels for overburden horizontal gradient monitoring and wetlands hydraulic monitoring. Procedures and protocols outlined in this subsection will be performed in conjunction with those presented in the HASP.

Complete the following tasks before any water level measuring activities:

1. Review the HASP.
2. Notify all required private property owners for property access as required by access agreements.
3. Assemble equipment and supplies using the appropriate checklists (see Appendix A - Standard Forms).
4. Complete the "Water Level Measurement Equipment and Supply Checklist" (Form 14) before measuring water levels and complete the "Water Level Measurement • Completion Checklist" (Form 15) as the work progresses.

5. All personnel involved in water level monitoring activities must wear protective clothing such as Tyvek coveralls, rubber boots, and nitrile gloves as specified in the HASP.
6. Collect water levels over as short a period of time as possible. Note observations of significant weather changes during the period of water level measurements. Note recent rainfall events.

Use the following procedures to measure water levels at Site wells:

1. Inspect the well. Determine if the cap and lock are secure or if they have been tampered with. If the well is unlocked, replace the lock. Note any cracks in the protective casing and/or surface seal as well as any subsidence in the vicinity of the well. Complete the "Well Inspection Summary" form (Form 3). Note the results of the inspection even if the well is in perfect condition.
2. Ensure that the well to be measured has been correctly identified and located. Determine the reference point for the well (i.e., top of casing).
3. Use a new pair of disposable nitrile gloves for each monitoring location. Undertake additional glove changes as conditions warrant.
4. Measure the water level in the well to ± 0.01 foot. Repeat water level measurements to ensure the level is stable. Compare these results to previous water level measurements to ensure the correct well is being monitored. Record the water level. Note the presence of any immiscible liquids in the well and any unusual odors.
5. Clean the water level measuring device prior to use at each new location and at the end of all water level measurements in accordance with the protocols presented in Section 3.2.9.
6. Complete the "Water Level Record" form (Form 16).

Use the following procedures to measure water levels at Site staff gauges:

1. All personnel involved in surface water level monitoring must wear protective, waterproof footwear and nitrile gloves as specified in the HASP. Always perform stream level measurement activities in a team of at least two people.
2. Use a new pair of disposable nitrile gloves for each monitoring location. Undertake additional glove changes as conditions warrant.
3. Inspect the staff gauge for tampering. Note the results of the inspection even if the staff gauge is in good condition.

4. Ensure that the staff gauge has been correctly identified and located.
5. Measure the distance from the top of the staff gauge to the water surface to ± 0.01 foot. Compare these results to previous water level measurements to ensure the correct staff gauge is being monitored. Record the water level.
6. Clean the measuring tape at the end of all staff gauge measurements in accordance with the protocols presented in Section 3.2.9.
7. Complete the "Water Level Record" form (Form 16).

3.5 EVALUATION OF MONITORING RESULTS

Upon receipt, groundwater, surface water, and discharge quality analytical results will be evaluated to determine if the data are acceptable for use in the respective monitoring programs. All data deemed to be acceptable, including QA/QC results, will be entered into a computer database. The procedures for evaluating analytical data resulting from Site monitoring activities are detailed in the QAPP.

The computer database will provide the required listing and summary tables of analyses, including a separate listing of QA/QC results. The summarized data will be used to determine the presence of Site-related chemicals in off-Site surface water and groundwater. As additional data are generated, graphic representations of concentrations versus time will be prepared to demonstrate temporal variations in groundwater, surface water, and effluent chemical concentrations.

The hydraulic data collected as part of the overburden horizontal gradient monitoring, and wetlands hydraulic monitoring will be converted to elevations and entered into a computer database. The water level data will be listed in tabular form for each round of data collected. Groundwater elevations will be contoured on Site plans, and horizontal gradients will be calculated to determine flow directions.

The evaluation of the hydraulic and water quality data will be used to determine if corrective contingency measures are required and when the system operations can be terminated.

3.6 RECORDS AND REPORTS

All field notes, field books, and completed standard forms will be stored on-Site in the control building. A copy of all chains of custody, shipping manifests for analytical samples, and analytical results will also be stored in the on-Site control building.

Monitoring reports will be submitted on a semi-annual basis to the NYSDEC except for monitoring of the discharge to the BSA which will be reported monthly for the first six months of system operation and quarterly thereafter. These monitoring reports will include:

- i) analytical results and appropriate QA/QC data;
- ii) hydraulic monitoring data;
- iii) an evaluation of the effectiveness of the collection systems, including tables and figures generated; and
- iv) recommendations for program revisions or system revisions, if appropriate.

4.0 OPERATION OF SITE SYSTEMS

Operation of the perimeter barrier and interior collection systems is controlled by a programmable logic controller (PLC) and personnel computer (PC) located in the control building. An autodialer system was installed which allows the system to be turned on or off from a remote location and allows alarms (such as power failure, security, fire, high levels in wet wells, etc.) to be transmitted to a remote location.

See Instrument Section Appendix B-13 for additional details.

4.1 WET WEATHER OPERATIONS

The RA for the Site includes the discharge of groundwater to the Town of Cheektowaga's sanitary sewer system for treatment by the BSA. The Site groundwater is discharged to the 15-inch diameter sanitary sewer which terminates near the intersection of Rein Road and Aero Drive and which flows to the Main Pump Station (see Figure 4.1).

One concern regarding the discharge scenario described above is the potential increase in sanitary sewer overflows from the Town's sanitary sewer system during wet weather events because of the hydraulic capacity used by the Site groundwater. In order to stay in compliance with the Town's contractual instantaneous discharge limit of 45 mgd with the BSA, the Town manages the volume of water released to the BSA through a series of overflows. The overflows are situated at various locations throughout the Town's sanitary sewer system. The Town has requested that the discharge of waters from the Site also be managed to maximize the hydraulic capacity available to the Town during peak flow periods. Discussions with the Town showed that no overflow outlets exist in the sanitary sewer line from the Site to the Main Pump Station. An overflow outlet does exist at the Main Pump Station.

To determine at which point in time and location overflows are required, the Town continually monitors:

- i) the instantaneous flow rate at the Main Pump Station;
- ii) the weather forecast; and
- iii) pipeline and manhole flow levels at specific locations.

When the instantaneous flow at the Main Pump Station approaches 20 mgd and the weather forecast predicts continuing wet weather, the Town's sewer maintenance foreman, who is on 24-hour call, is alerted. The foreman inspects each overflow location starting from the periphery/outlying locations and moving to the Main Pump Station. Overflows from the periphery/outlying locations typically occur before an overflow occurs at the Main Pump Station. Generally overflows from the periphery locations do not occur until the instantaneous flow is on the order of 25 mgd. Overflows are started based on the conditions observed at each overflow location. Overflows at the Main Pump Station generally occur when the instantaneous flow begins to exceed 40 mgd.

The wet weather operating plan for the long-term O&M period will monitor the instantaneous flow rate at the Main Pump Station. When the instantaneous flow rate reaches 30 mgd, an alarm at the Main Pump Station will notify Town personnel to stop pumping of the Site groundwater collection system. The pumping will be stopped by Town personnel using a phone to call into the control system (see Appendix B-6 Alarm System - Remote Dialing Instructions). When the instantaneous flow rate subsequently decreases to a level below 30 mgd, an alarm at the Main Pump Station will notify Town personnel to restart pumping of the groundwater collection system.

A trigger level of 30 mgd was selected in consultation with the Town. At 30 mgd, the Town still has considerable hydraulic capacity available and can effectively manage use of the overflow systems. The likelihood of a shut-down for an extended period (i.e., ≥ 1 week) is minimal at this trigger level.

5.0 SITE MAINTENANCE

Site maintenance requirements include routine Site inspections, scheduled preventative maintenance, unscheduled maintenance in response to inspection reports or component failures, and record keeping for maintenance activities. All system inspection and maintenance activities will be performed in strict accordance with the HASP.

5.1 SITE INSPECTIONS

5.1.1 INSPECTION SCHEDULE

Table 5.1 presents an outline of the inspection and preventative maintenance schedule for the groundwater collection and discharge system, the landfill cap, and wetland areas. This schedule will be revised as more experience with the particular maintenance requirements of the Site systems is gained.

Required maintenance as identified by the monthly inspections will be performed as soon as possible following identification.

5.1.2 INSPECTIONS

The Site will be inspected on a monthly or quarterly basis as shown in Table 5.1. These inspections will ensure that the remedial components are functioning effectively as designed following construction. Give particular attention to the following system components:

Overburden Groundwater Collection and Discharge System

- manholes;
- wet wells; and
- pumps.

Landfill Cap/Backfilled Excavated Areas

- roads;
- surface structures;
- vegetated soil cover;

- ditches and culverts;
- perimeter fencing; and
- general surface conditions.

Wetlands

- vegetation;
- water levels; and
- general condition of the wetlands.

Off-Site Surface Water Drainage Pathways

- ditches and culverts;
- Aero Creek; and
- Ellicott Creek.

The surface of the landfill cap and backfilled excavated areas will be inspected to ensure that the integrity of the cap is being maintained. The surface of the cap will be inspected for signs of damage due to loss of vegetation, settlement, erosion, and burrowing by animals.

Wetland areas will be visually inspected to ensure the integrity of the wetlands are being maintained. Inspections will include observation of the condition of the vegetation and of the water level.

Off-Site surface water drainage pathways will be visually inspected to ensure that obstructions/blockages that would prevent drainage from the Site are not present.

Inspections will be recorded on the Inspection Log (Form 17). A copy of the completed logs will be submitted to the NYSDEC with the semi-annual reports. All original logs will be kept on file at the on-Site control building.

5.2 PREVENTATIVE MAINTENANCE

Regular scheduled maintenance for the various remedial components will be determined after the construction is completed based on Site conditions and the initial

inspection. Maintenance items include, but are not limited to, the following remedial components:

Groundwater Collection and Discharge System

1. cleaning manholes/wet wells and the collection system;
2. repairing the barrier wall; and
3. securing and repairing access covers.

Landfill Cap/Backfilled Excavated Areas

1. cutting, fertilizing, and restoring the Site vegetative cover;
2. grading the Site access roads;
3. patching potholes and surface cracks in bituminous surfaces;
4. repairing surficial erosion and sloughing along the perimeter slopes;
5. repairing damage caused by burrowing wildlife, presence of deep-rooted weeds, or other vegetation;
6. repairing or replacing fencing, signs, and locks;
7. repairing leachate seeps; and
8. cleaning ditches and culverts.

Wetlands

1. restoring vegetation;
2. repairing surficial erosion and washouts;
3. repairing/replacing erosion protection; and
4. controlling and removing undesirable vegetation.

Off-Site Surface Water Drainage Pathways

1. removing obstructions/blockages.

Regular maintenance of the collection system is required to ensure maximum operating efficiency, long operating life, and minimum repair costs.

The maintenance of the groundwater collection and discharge system will involve inspection for biological growth and/or chemical precipitation from the walls of the pipes. If left unchecked, biological growth and chemical precipitates could develop to a point where pipe perforations become blocked preventing infiltration of groundwater into the pipes. Sediment in the pipe could build up to a point where the entire pipe becomes blocked if regular removal does not occur. Advanced stages of these developments become more difficult and costly to remediate.

Several options are available for cleaning the collection pipes including hydraulic, mechanical and chemical methods. The mechanical and chemical methods are generally reserved for the repair or cleaning of blocked or clogged pipes. Hydraulic methods are generally used for the regular maintenance of collection systems.

The regular maintenance of the collection system could involve hydraulic methods consisting of high pressure water jetting only if indicated by reduced system performance.

Jetting equipment consists of a special nozzle connected to a hose. Water is pumped through the hose at high pressure with the nozzle directing the stream of water in a radial direction. The force of the water is used to both propel the nozzle through the line and to dislodge materials which have built up in the pipe. High pressure jetting equipment can operate at pressures up to 2,000 psi. However, extremely high pressures could cause damage to the collection pipe and/or pipe bedding. Pressures in the range of 500 to 1,000 psi are recommended.

In conjunction with the jetting of the pipes, loosened debris would be removed from the down-stream manholes by a vacuum truck. This material would be disposed at an approved off-Site location.

Remote camera inspections of the collection systems may be performed to determine damage sections if necessary. This may also be performed following the cleaning of a section of pipe to determine the effectiveness of the cleaning technique.

Maintenance of the collection system also involves the regular inspection of the mechanical and electrical components within each wet well.

Maintenance of the landfill cap/backfilled excavated areas will be identified by the monthly inspections and will be performed as soon as problems are encountered. Maintenance of the landfill cap/backfilled excavated areas includes the repair of damaged areas and the cutting and/or fertilizing of the Site vegetative cover. The

schedule for regular maintenance activities will be determined by initial inspection activities performed after completion of construction.

Maintenance of the wetlands and off-Site surface water drainage pathways will be identified based on the monthly inspections and will be performed as soon as practical after problems are observed.

A brief Work Plan will be submitted to the NYSDEC prior to the commencement of any major maintenance or remedial works at the Site.

5.3 UNSCHEDULED MAINTENANCE

Additional maintenance is required when inspections reveal a problem with one of the systems or when system components malfunction. Should inspections reveal that non-emergency maintenance or response is required, complete the work as soon as practicable in order to eliminate further damage and the need for emergency repairs. If a situation requires immediate action, initiate emergency remedial actions immediately. Notify the NYSDEC of all emergency actions. All replacement equipment must be of equal or better quality than the original components and when possible should be the same make and model as the original. All replacement materials must meet or exceed the RA construction specifications. A summary of potential problems which may require maintenance and the appropriate corrective actions is presented in Table 5.2.

5.3.1 LANDFILL CAP

The purpose of the landfill cap is to reduce infiltration of precipitation into the Site, prevent erosion of landfill materials, and eliminate direct human contact with the landfill materials. The layers of the cap work together to achieve these goals and, therefore, each one of the layers is necessary for the landfill cap system to function effectively. When a problem is detected with the cap, notify the NYSDEC and correct it as soon as possible.

5.3.1.1 VEGETATIVE COVER

Visible indications of problems which may occur with the vegetative cover include bare areas, dead or dying grass, and growth of weeds or bushes. When inspection reveals bare areas or dead or dying grass, perform the following actions to correct the problem:

1. till the topsoil;
2. re-seed and mulch; and
3. cover slopes with erosion control mat.

Remove all bushes and tall weeds annually because their roots will penetrate the cover if they are left unattended. Mowing will be performed annually in the early fall (e.g. September) of each year.

5.3.1.2 IMPORTED CLEAN SOIL AND TOPSOIL LAYERS

Visible indications of problems which may occur with the imported clean soil and topsoil layers include washout and erosion, settlement, standing water, and animal holes or burrows.

If the cap has been damaged by erosion or a washout has occurred, perform the following actions to correct the problem:

1. recover the washed out soil;
2. backfill with recovered soil and additional soil to the original barrier protection layer design thickness;
3. place a 6-inch thick layer of soil capable of supporting vegetative growth over the barrier protection layer;
4. check the final elevation to ensure adequate drainage; and
5. seed/mulch and cover slopes with erosion control mat.

Settlement and standing water can be corrected by either regrading or by placing additional topsoil in the low areas.

Correct animal holes or burrows by performing the following actions:

1. capture and remove the rodents;
2. carefully excavate the area around the burrow and inspect the VFPE liner (if the liner requires repairs follow the steps discussed in Section 5.3.1.3);

3. replace the barrier protection and topsoil layers to the original design thickness;
and
4. seed/mulch and cover slopes with erosion control mat.

5.3.1.3 LOW PERMEABILITY LAYER

If the 40-mil VFPE liner is punctured, take the following steps to repair it:

1. carefully excavate the soil above the liner (do not use a mechanical excavator or backhoe);
2. cover the puncture with a 40-mil VFPE patch that extends a minimum of 6-inches beyond the edges of the puncture;
3. seal the patch in place by extrusion welding it to the liner;
4. vacuum test the seam to ensure a complete seal;
5. record the results of the test, and location and size of the patch;
6. replace the barrier protection and topsoil layers to the original design thickness;
and
7. seed/mulch and cover slopes with erosion control mat.

5.3.1.4 GAS VENTING LAYER

If the 6-inch gas venting layer is damaged, regrade or replace with gas venting layer material to obtain the required 6-inch thickness.

5.3.1.5 GROUNDWATER SEEPS

Groundwater seeps may occur where the groundwater path to the collection system is blocked or restricted. Seeps may also occur if one of the collection pipes is blocked and the collection system is flooded. A groundwater seep will appear as a groundwater discharge from the landfill slopes. If a seep is detected, inspect the collection pipe for blockage. If blocked, perform the activities described in Section 5.3.3.1. If not blocked or if cleaning the collection pipe does not correct the seep, perform the following actions to correct the problem:

1. remove the topsoil, barrier protection layers, and the liner (if appropriate);
2. excavate through the layer of the landfill material that is restricting groundwater flow to the collection system;
3. backfill with a free-draining granular material (i.e., 3/4-inch gravel); and
4. replace the landfill cap layers to their original condition and grades.

5.3.2 **BACKFILLED WASTE EXCAVATION AREAS**

The purpose of the backfill in the waste excavation areas is to build up the area to an elevation sufficient to promote surface drainage to the perimeter ditches. When a problem is detected with the imported clean soil, correct it as soon as possible.

5.3.2.1 **VEGETATIVE COVER**

Visible indications of problems which may occur with the vegetative cover include bare areas, dead or dying grass, and growth of weeds or bushes. When inspection reveals bare areas or dead or dying grass, perform the following actions to correct the problem:

1. till the topsoil;
2. re-seed and mulch; and
3. cover slopes with erosion control mat.

5.3.2.2 **IMPORTED CLEAN SOIL AND TOPSOIL LAYERS**

Visible indications of problems which may occur with the imported clean soil and topsoil layers include washout and erosion, settlement, standing water, and animal holes or burrows.

If the surface has been damaged by erosion or a washout has occurred, perform the following actions to correct the problem:

1. recover the washed out soil;
2. backfill with recovered soil and additional soil to the original imported clean soil layer design thickness;

3. place a 4-inch thick layer of soil capable of supporting vegetative growth , consistent with the surrounding conditions, over the imported clean soil layer;
4. check the final elevation to ensure proper drainage; and
5. seed/mulch and cover slopes with erosion control mat.

Settlement and standing water can be corrected by either regrading or by placing additional topsoil in the low areas.

Correct animal holes or burrows by performing the following actions:

1. capture and remove the rodents;
2. replace the imported clean soil and topsoil layers to the original design thickness; and
3. seed/mulch and cover slopes with erosion control mat.

5.3.3 OVERBURDEN GROUNDWATER COLLECTION AND DISCHARGE SYSTEM

The purpose of the overburden groundwater collection and discharge system is to eliminate groundwater flow from on-Site to off-Site areas, to prevent groundwater flow from overburden to bedrock beneath the Site, and to reduce the concentration of chemicals in on-Site groundwater. All of the overburden groundwater collection and discharge system components work together to achieve these goals and, therefore, each component is necessary for the system to function effectively. When a problem is detected with the collection and discharge system, it must be corrected as soon as possible.

5.3.3.1 GROUNDWATER COLLECTION PIPE

A visible indication of problems which may occur with the groundwater collection pipe is an increase in water level in some parts of the collection system and a decrease in discharge flow. This indicates that the collection pipe is blocked and groundwater flow is restricted. Take the following actions as soon as possible:

1. pressure flush the pipe sections that are plugged; and
2. vacuum sediments and debris from manholes and wet wells.

5.3.3.2 BARRIER WALL

Visible indications of problems which may occur with the barrier wall include excessive flow in the collection pipe and the dewatering of adjacent wetlands. Take the following actions as soon as possible:

1. determine the section of barrier wall requiring repair;
2. excavate the barrier wall;
3. reconstruct the barrier wall to the original construction specifications; and
4. reconstruct the excavated collection drain and cap to the original lines and grades.

5.3.3.3 MANHOLES AND WET WELLS

Visible indications of problems which may occur with manholes and wet wells include cracks, locks or covers damaged or missing, and ladder rungs or safety platforms loose.

If a lock or cover is damaged or missing, replace it. If a ladder rung or safety platform is loose, use cement mortar to re-affix the loose rung or safety platform support to the inside of the manhole or wet well.

5.3.3.4 FORCEMAIN

Visible indication of problems which may occur with the forcemain is a substantial decrease in discharge flow. This could indicate that the forcemain may be blocked or leaking.

If the forcemain is blocked, take the following actions as soon as possible:

1. shut down the pumping system;
2. identify section of forcemain that is blocked (may require video inspection);
3. drain the section of forcemain that is blocked;
4. pressure wash the forcemain section;
5. vacuum sediments and debris from manholes or wet wells; and

6. restart the pumping system.

If the forcemain is leaking, take the following actions as soon as possible:

1. shut down the pumping system;
2. identify section of forcemain that is leaking (may require video inspections);
3. drain the section of forcemain that is leaking;
4. excavate the forcemain;
5. reconstruct the forcemain to the original construction specifications; and
6. reconstruct the excavated collection drain and cap to the original lines and grades.

5.3.3.5 ELECTRICAL AND CONTROL SYSTEMS

The model LF413/LF403 electromagnetic flowmeter, manufactured by Toshiba Corporation consists of two components, the LF413 Detector and the LF403 Signal Converter. Annual inspection and maintenance should include cleaning of the detector pipe and calibration of the LF403 Converter. For maintenance and troubleshooting issues, refer to the manual located in Appendix B-5.

The Model MT2000 Level Transmitter, manufactured by K-Tek Corporation, is a 4-20 m A-looped powered level transmitter with HART Protocol. It is recommended that the transmitter be calibrated quarterly. For maintenance and troubleshooting issues, refer to the manual located in Appendix B-4.

5.3.3.6 PUMPS

Each wet well is equipped with a pump. The pumps are all submersible Goulds Pumps Model 3885. The pumps in wet wells WW-1, 2, and 6 are Model WE0734H with 3/4 HP motors. Wet wells WW-3, 4, and 5 are Model WE1534HH with 1 1/2 HP motors. For maintenance and troubleshooting issues, refer to the manual located in Appendix B-2.

5.3.3.7 HEAT TRACING

The wet well pump piping is electrically heat traced from the check valve on the discharge of the pump (at grating level) to the forcemain elevation. The heat tracing is self regulating Raychem Trace Cable (220V) 5HBTV2-CT with a General Cable Pyrotenax 910 Series HTC Digital Controller (see attached manual in Appendix B-8).

5.3.3.8 SECURITY SYSTEM

The security system is an ADEMCO VISTA-20 SE alarm system (see Appendix B-6) and includes the following:

- 1) Building Security
 - a) Smoke Fire Alarm
 - b) Motion Detector
 - c) Door Contacts
 - d) Outdoor Siren/Strobe Light
- 2) Outgoing Dialer System

United Security Products - Model AD-2000 is used for calling out and stating one of the following conditions:

 - a) Pumps are on
 - b) Pumps are off
 - c) Processor alarm
 - d) Building Security Alarm
- 3) Interactive Phone Module

ADEMCO - Model VISTA 4286VIP

The module permits access to the security system (remote turn on or off) and allows turning on or off the pumping system via touchtone phone.

5.3.3.9 CONTROL SYSTEM

The control system is an Allen Bradley Personal Computer built into the control panelboard with a touch screen interface. The computer utilizes a Windows NT operating system with RS View control software. See Appendix B-13 for details.

5.3.4 WETLANDS

When a problem is detected with the restored wetlands, notify the NYSDEC and correct it as soon as possible.

Visible indications of problems which may occur with the wetlands vegetation include dead or dying vegetation and growth of invasive plant species. When inspection reveals dead or dying vegetation or the presence of invasive plant species, perform the following actions as soon as possible to correct the problem:

1. remove all invasive plant species by hand or by controlled burning (with NYSDEC approval); or
2. replant with desirable species.

With regard to Phragmites control, inspect the remediated wetlands adjacent to Aero Creek annually. If Phragmites stems are observed to be present in the wetland area, control by spraying or wiping with Rodeo herbicide during September or early October of that year. This will be performed for a period of 5 years.

If the wetlands have become damaged by erosion or washout, perform the following actions to correct the problem:

1. recover the washed out soil;
2. backfill with recovered soil and additional soil to the original ground elevation (this may be below the water surface); and
3. replant with desirable species.

If the wetlands become clogged with sediment, perform the following actions to correct the problem:

1. excavate the sediment to the original ground elevation (this may be below the water surface); and
2. replant with desirable species.

5.3.5 OTHER SITE SYSTEMS

Other Site systems include access roads, perimeter fences, signage, and drainage ditches. When a problem is detected with these systems, correct it as soon as possible.

5.3.5.1 ACCESS ROADS

Visible indications of problems which may occur with Site access roads include washed out surface gravel or sub-base material, potholes, puddles, and obstructions.

If the surface gravel or sub-base material is washed out, take the following actions as soon as possible:

1. recover washed out gravel;
2. use recovered gravel to backfill the eroded area;
3. use new material to supplement the recovered material as necessary; and
4. compact to the original grade.

When a substantial puddle or pothole is detected, take the following actions as soon as possible:

1. backfill with new material; and
2. compact to the original grade.

5.3.5.2 PERIMETER FENCE AND SIGNS

Visible indications of problems which may occur with the perimeter fence and signs include broken locks or gates, gaps in the fence, and missing or damaged signs.

If locks or gates are missing or damaged, replace them as soon as possible. If there are gaps in the fence, repair or replace the damaged section as soon as possible. If warning signs are damaged or missing, replace them as soon as possible.

5.3.5.3 DRAINAGE DITCHES

Visible indications of problems which may occur with the Site drainage ditches include bare areas, dead or dying grass, displaced stone fill, and the accumulation of obstructions or debris. When inspection reveals bare areas or dead or dying grass, perform the following actions to correct the problem:

1. till the top soil;
2. re-seed and mulch; and
3. cover drainage ditch with erosion control mat.

If stone fill becomes displaced, recover the stone and place it in its original position. Repair of underlying soils may also be necessary. Remove any obstructions or debris accumulated in the drainage ditches.

5.4 DISPOSAL OF USED MATERIAL AND WASTE

Containerize material and waste containing Site-related chemicals and temporarily stage the containers on Site. Clearly label each container. When a sufficient quantity of containers have been accumulated at the Site, ship them to a licensed off-Site disposal facility in accordance with all applicable Federal and New York State Regulations.

5.5 MAINTENANCE RECORDS

A record of all maintenance scheduled and performed will be kept at the on-Site control building. The record will include a description of the work performed, who it was performed by, and comments which may arise. Form 18 provides a maintenance record log for this purpose.

5.6 REMEDIAL WORKS

Should inspections reveal that non-emergency maintenance or response is required, it will be completed as soon as practicable in order to preclude further damage and the need for emergency repairs. Should a situation exist requiring immediate action, on-Site personnel must initiate emergency or remedial response actions. Notify the NYSDEC of any emergency actions.

Should remedial action, both emergency or non-emergency, require excavation into the landfill cap or barrier wall, notify the NYSDEC prior to commencing the work. The specific contact person or persons will be determined after remedial construction is complete and added to the O&M Plan.

6.0 REPORTS

Monitoring Reports and Inspection and Maintenance Reports will be submitted to the NYSDEC. The NYSDEC representative, as of the date of the report, is Jaspal Walia, P.E. Additional specific person or persons to receive the reports will be determined after remedial construction is complete and added to the O&M Plan.

A Monitoring Report will be submitted semi-annually for a period of 5 years, except for monitoring of the effluent to the BSA which will be reported monthly for the first six months of system operation and quarterly thereafter. After 5 years, the frequency may be revised. The reports will include the results of all environmental monitoring performed and a description of all inspection and maintenance activities performed at the Site during the previous 6 months. The Monitoring Reports will include analytical results and appropriate QA/QC data, hydraulic monitoring data, an evaluation of the effectiveness of the collection systems, including tables and figures generated, and recommendations for program revisions or system revisions, if applicable.

7.0 CITIZEN PARTICIPATION

A Citizen Participation (CP) Plan is presented in Appendix C of the Site Management and Operations Plan dated March 2001. The CP will be jointly administered by both the NYSDEC and the Town of Cheektowaga.

8.0 PERSONNEL

This section describes the required minimum experience for key project personnel, responsibilities of the personnel, the organizational structure, and lines of communication and authority for the performance of the O&M Plan at the Site.

8.1 ORGANIZATION

The O&M Plan will be carried out by an Engineer/Contractor hired by the Town. The evaluation of monitoring results, preparation of reports, design of significant contingency measures, and Site oversight/construction management will be performed by such Engineer/Contractor. The organization chart including chains of command for the performance of the O&M Plan is presented on Figure 8.1.

8.2 PERSONNEL REQUIREMENTS

Personnel requirements for various O&M activities are detailed in Table 8.1.

8.3 RESPONSIBILITIES AND DUTIES

A description of the required duties and qualifications of the key personnel are presented below.

The Town will have responsibility for overseeing/ensuring performance of administrative functions during the performance of the O&M Plan. The Town will retain the services of an Engineer/Contractor to perform certain of the services required by the O&M Plan. The selected Engineer/Contractor will be subject to approval by the Steering Committee and the NYSDEC.

The personnel responsibilities described below are those currently envisioned. The exact responsibilities will be defined in the future by the Town when the Town determines which activities it will undertake directly and which activities will be delegated to one or more contractors.

Town's Project Coordinator

- i) provides overall project coordination;
- ii) participate in key technical negotiations with the NYSDEC;
- iii) responsible for all communication between the Steering Committee, Town, and the NYSDEC;
- iv) address access and permitting issues;
- v) provide data reporting and submittal of reports as specified in the O&M Plan; and
- vi) performs schedule and budget tracking and approves all Contractor invoices.

Town's Engineer's Project Manager

- i) reports to the Town's Project Coordinator
- ii) provides overall project management;
- iii) ensures professional services by the Engineer are cost effective and of highest quality;
- iv) ensures all resources of the Engineer are available on an as-required basis;
- v) participates in key technical negotiations with NYSDEC;
- vi) prepare and/or review all reports prior to submittal to the NYSDEC; and
- vii) provides managerial and technical guidance to the Site Engineer.

Town's Site Engineer

- i) provides day-to-day project management;
- ii) provides managerial guidance to the Engineer's technical group;
- iii) acts as liaison with NYSDEC, Town, and the Steering Committee as appropriate;
- iv) prepares and reviews reports;
- v) conducts preliminary chemical data interpretation and assessment;
- vi) conducts field audits; and
- vii) responsible for overall O&M activity completion in accordance with the approved O&M Plan.

8.4 WORKER HEALTH AND SAFETY TRAINING

Prior to performing any Site activities, all personnel who will be or are expected to be involved with Site activities will attend a Health and Safety/Site Indoctrination Session.

The training program will stress the importance that each attendee understands the basic principles of personnel protection and safety, be able to perform their assigned job tasks in a safe and environmentally responsible manner and be prepared to respond in an appropriate manner to any emergency which may arise. A description of the Site will be included and the various components of the HASP will be presented followed by an opportunity to ask questions to ensure that each attendee understands the HASP. Personnel not successfully completing this training program will not be permitted to enter or work at the Site. Personnel successfully completing this training program shall sign an acknowledgment form, a copy of which is presented as Form 19 in Appendix A.

Personnel involved in activities within an Exclusion Zone (e.g., water sampling and/or handling, confined space entry, collection drain system and/or forcemain system cleaning or repair), cap repair (beneath the liner), and liner repair will require OSHA training as defined by 29 CFR 1926.65. The Site Health and Safety training will be given in addition to the basic training required under OSHA and is not intended to meet the requirements of 29 CFR 1926.65. Prior to working in or entering an exclusion zone environment (as defined in Section 1.3 of the HASP), all personnel will be required to provide documentation to the Town indicating successful completion of the training requirements of 29 CFR 1926.65. This includes a certificate for the initial 40 hours of training, a current eight hour refresher certificate, and additional eight hour certificates for managers or supervisors.

9.0 HEALTH AND SAFETY PLAN

The Health and Safety Plan is detailed in Appendix C.

10.0 RECORDS

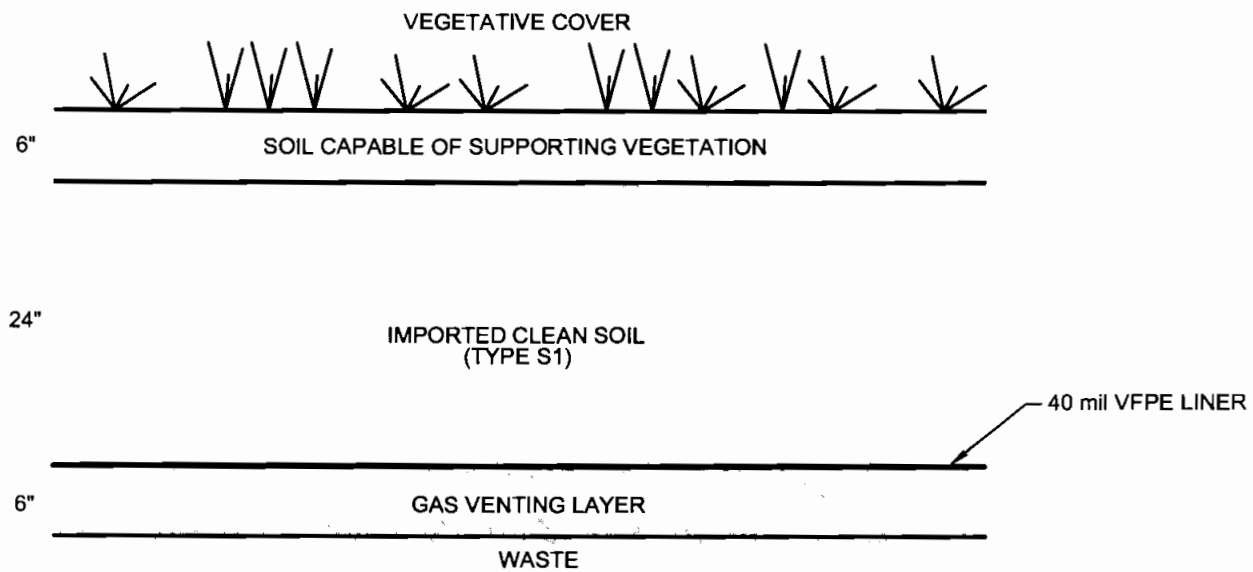
All records resulting from O&M activities will be stored on Site in the control building and will be available for inspection by NYSDEC and Steering Committee personnel.

11.0 EMERGENCY CONTINGENCY PLAN

The Emergency Contingency Plan, including contingency actions for emergency spill response, fire/explosion, personal injury and toxic exposures, public notification, and emergency telephone numbers is detailed in the HASP.

12.0 RECORD DRAWINGS

Record drawings were provided with the NYSDEC approved Remedial Action Construction Report submitted on August 20, 2003.



TYPICAL CAP DETAIL
N.T.S.

figure 2.1

LOW PERMEABILITY LANDFILL CAP CROSS-SECTION
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



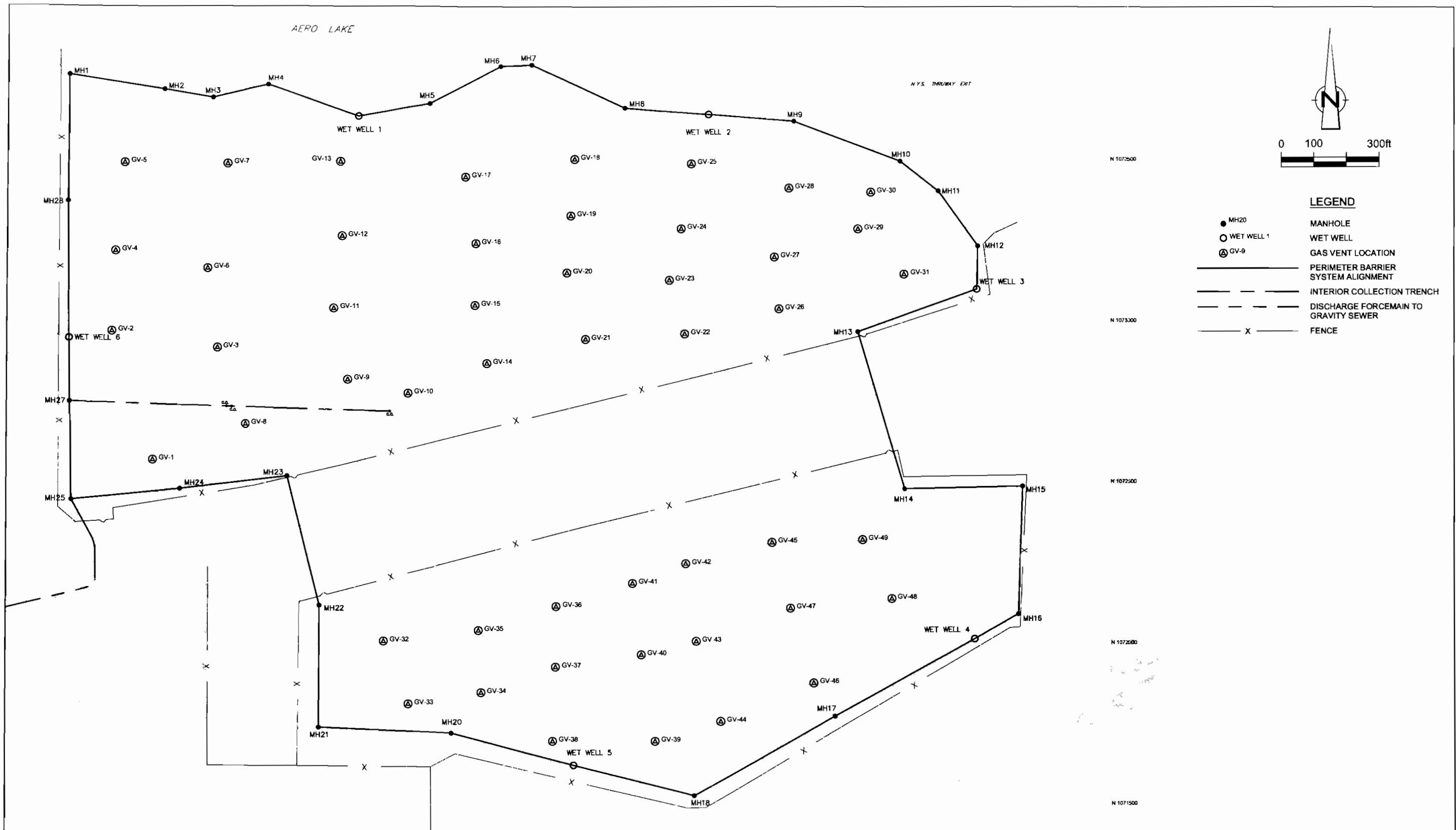
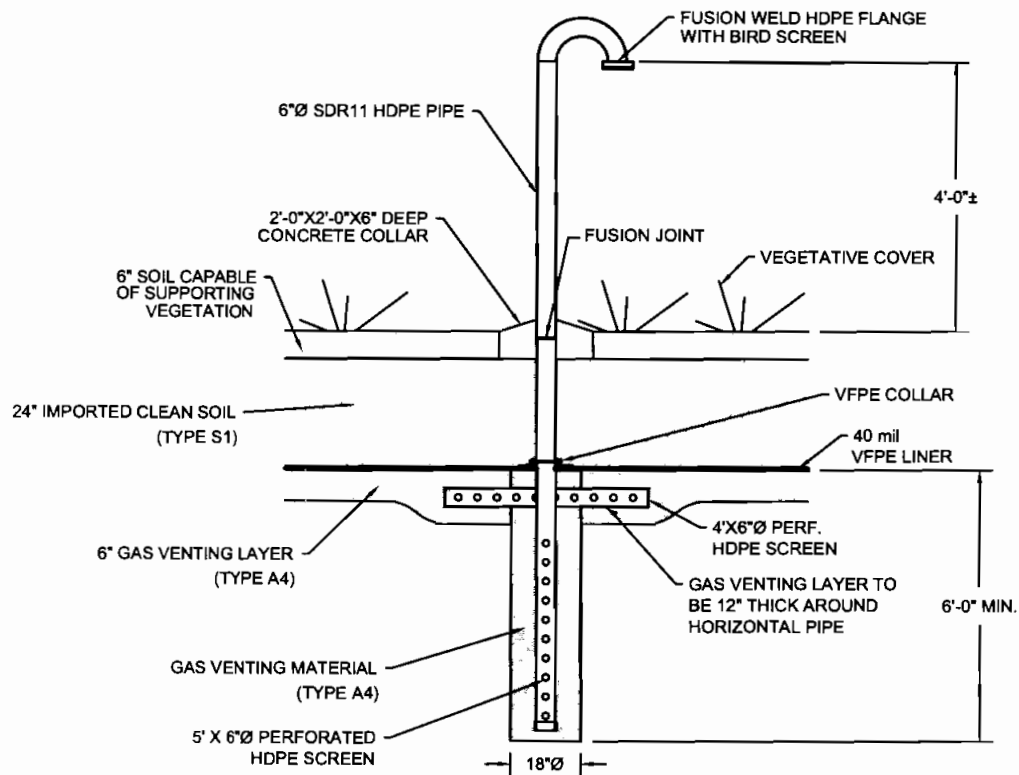


figure 2.2
 GAS VENT LOCATIONS
 OPERATION AND MAINTENANCE PLAN
 Pfohl Brothers Landfill Site, Cheektowaga, New York





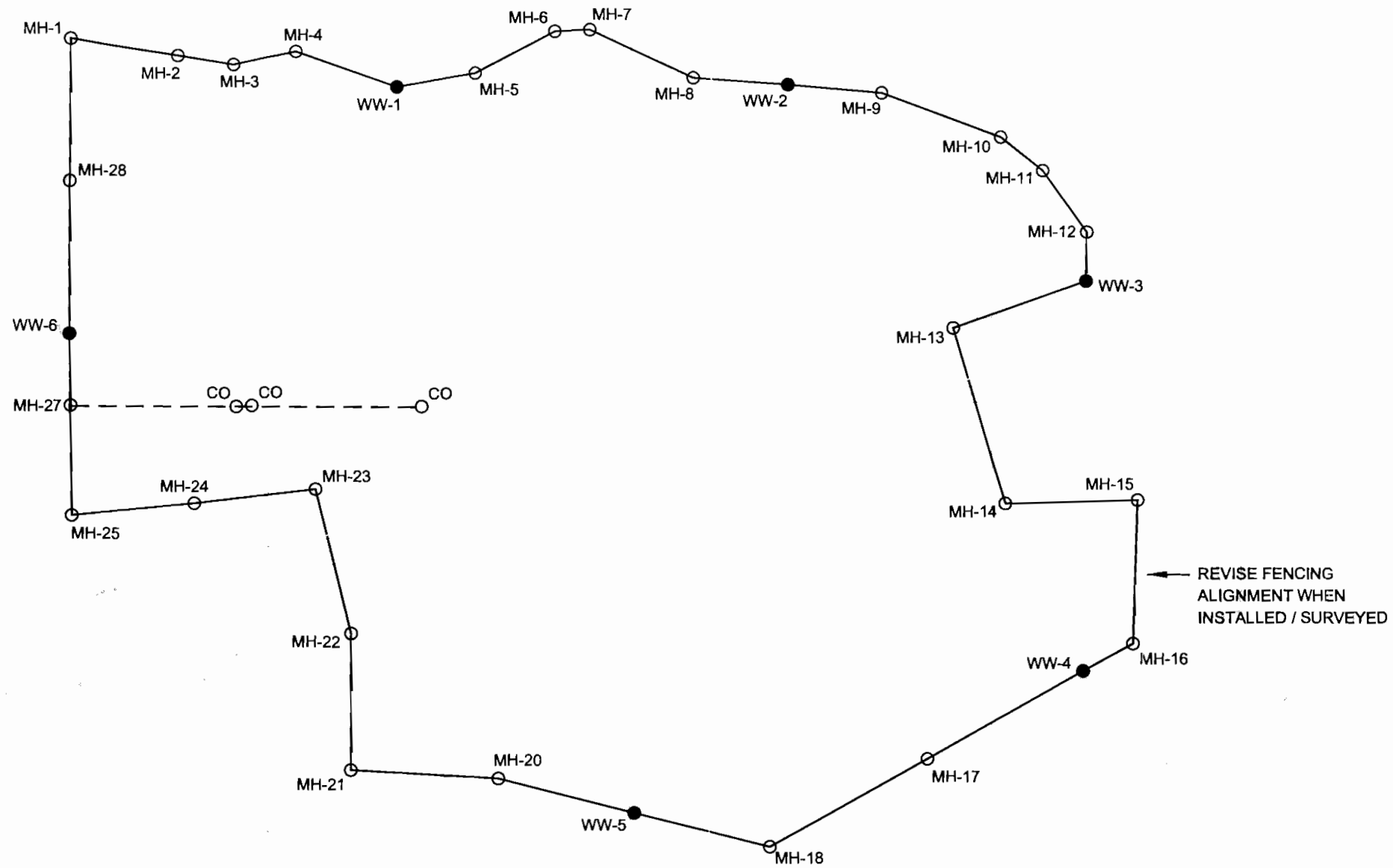
TYPICAL LANDFILL GAS VENT DETAIL

N.T.S.

figure 2.3

TYPICAL GAS VENT DETAIL
 OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York





LEGEND

- RAILWAY TRACKS
- SITE BOUNDARY
- FENCE
- SHOREWATER LINE
- COLLECTION DRAIN ALIGNMENT
- WW-1 ● WET WELL LOCATION
- MH-3 ○ ACCESS MANHOLE LOCATION

NOTE:
 COMPILATION OF BASE MAP PROVIDED BY
 ABRAMS USING AERIAL PHOTOGRAPHY
 DATED APRIL 14, 1993



figure 2.4
**PERIMETER COLLECTION DRAIN SYSTEM
 OPERATION AND MAINTENANCE PLAN**
Pfohl Brothers Landfill Site, Cheektowaga, New York

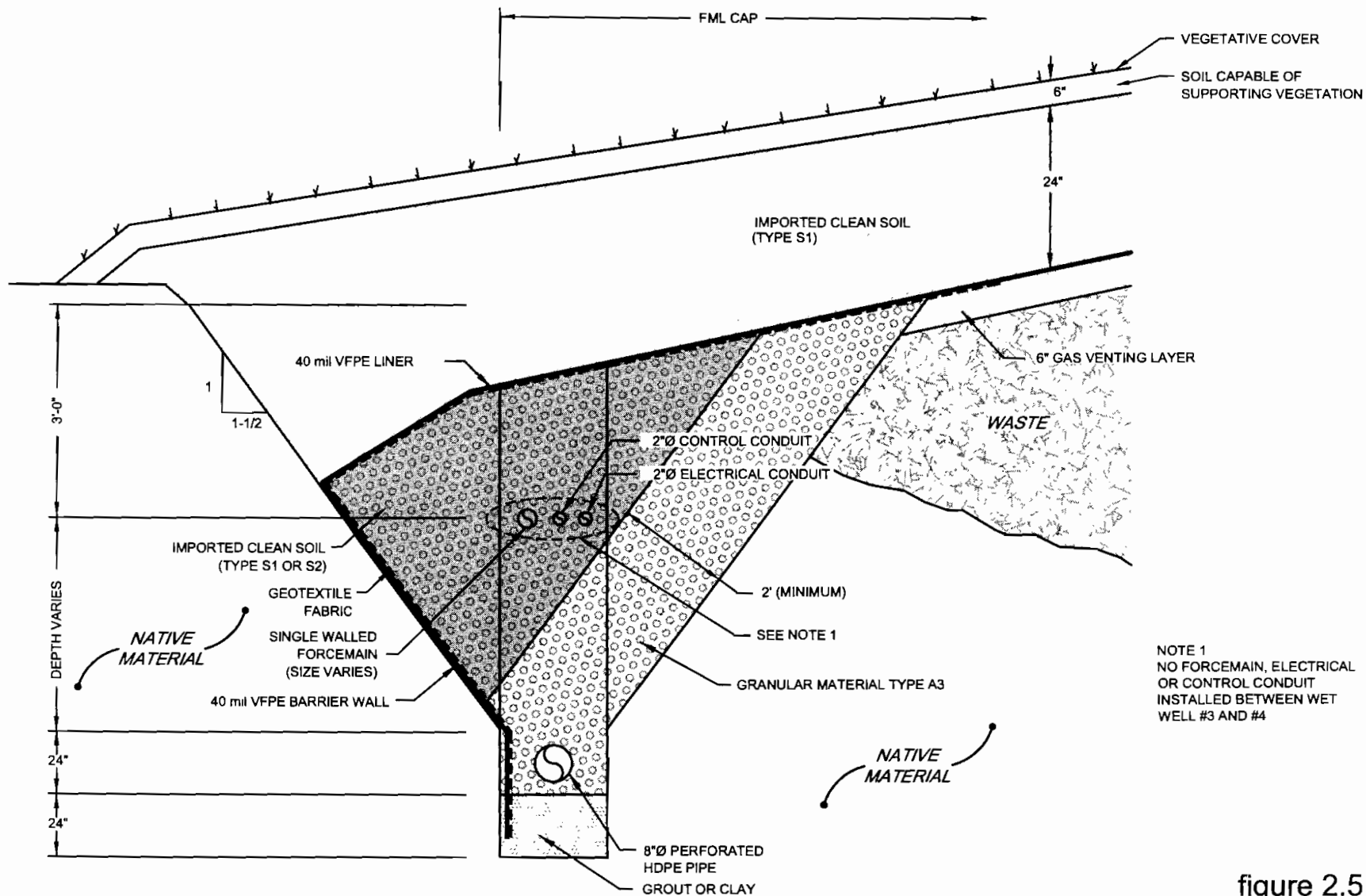


figure 2.5

TYPICAL COLLECTION DRAIN/VERTICAL WALL DETAIL
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



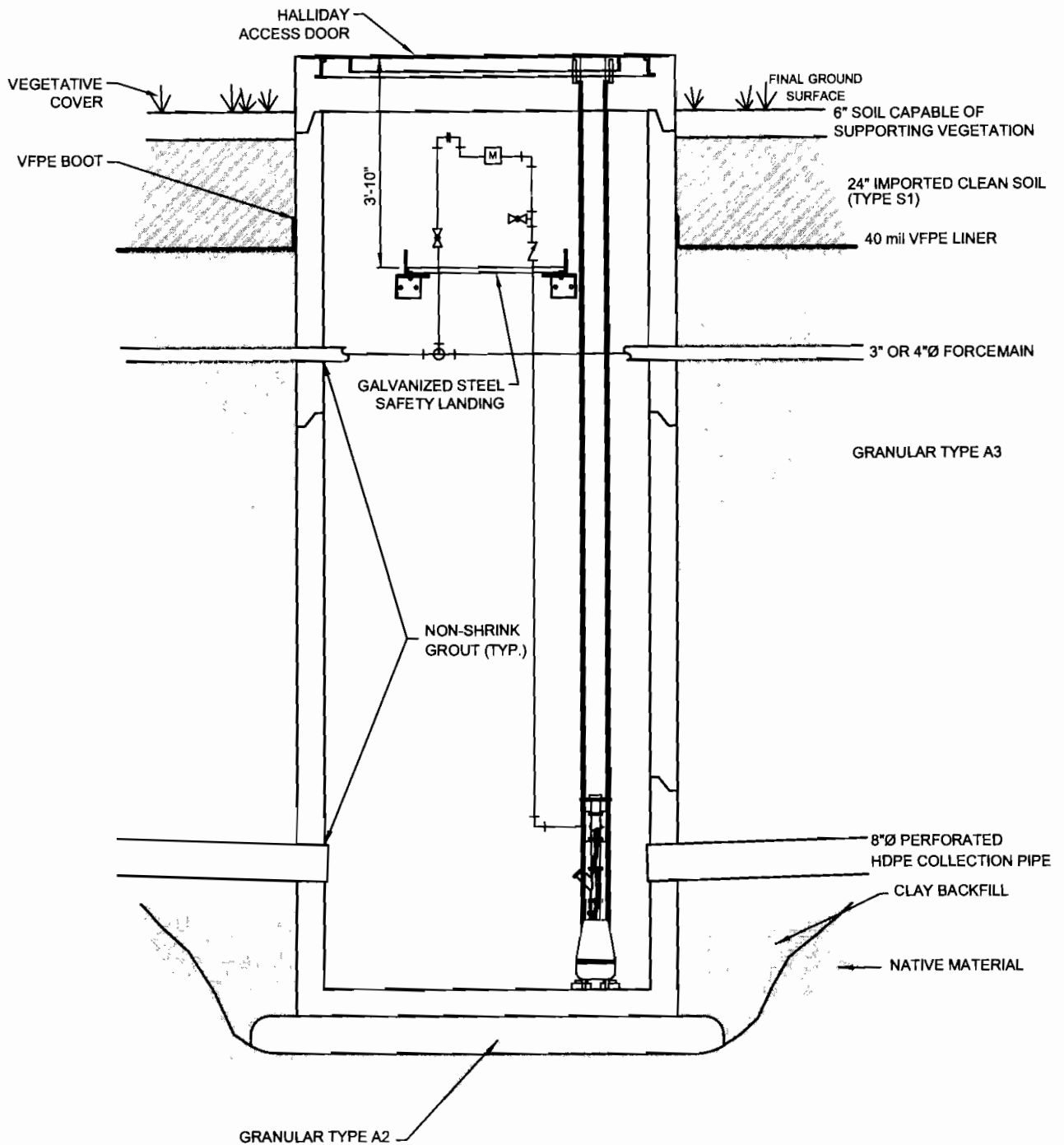
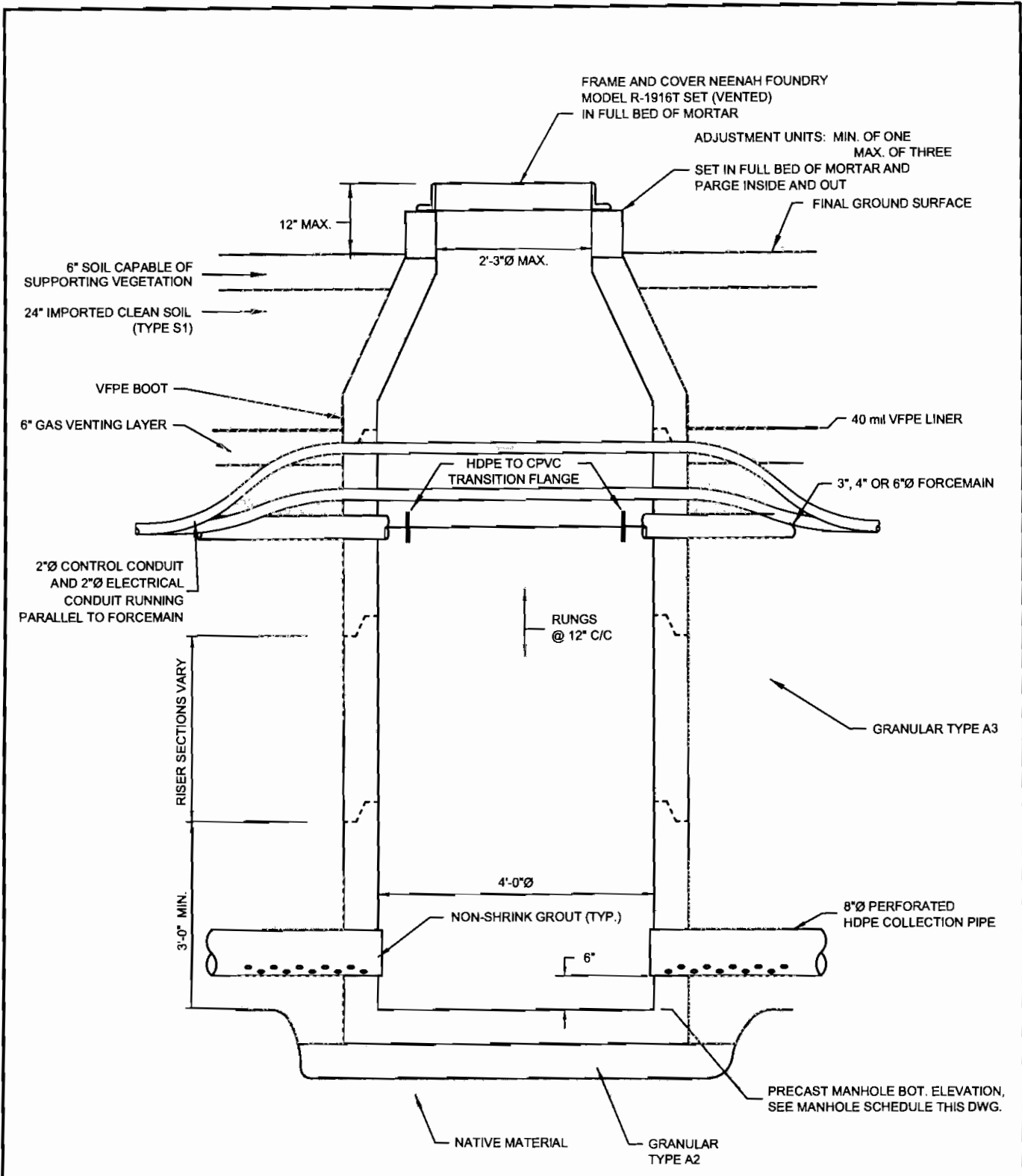


figure 2.6

TYPICAL WET WELL DETAIL
 OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



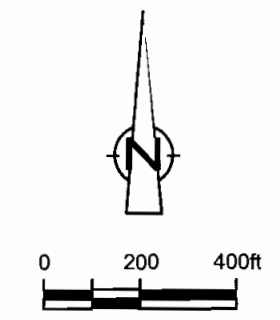
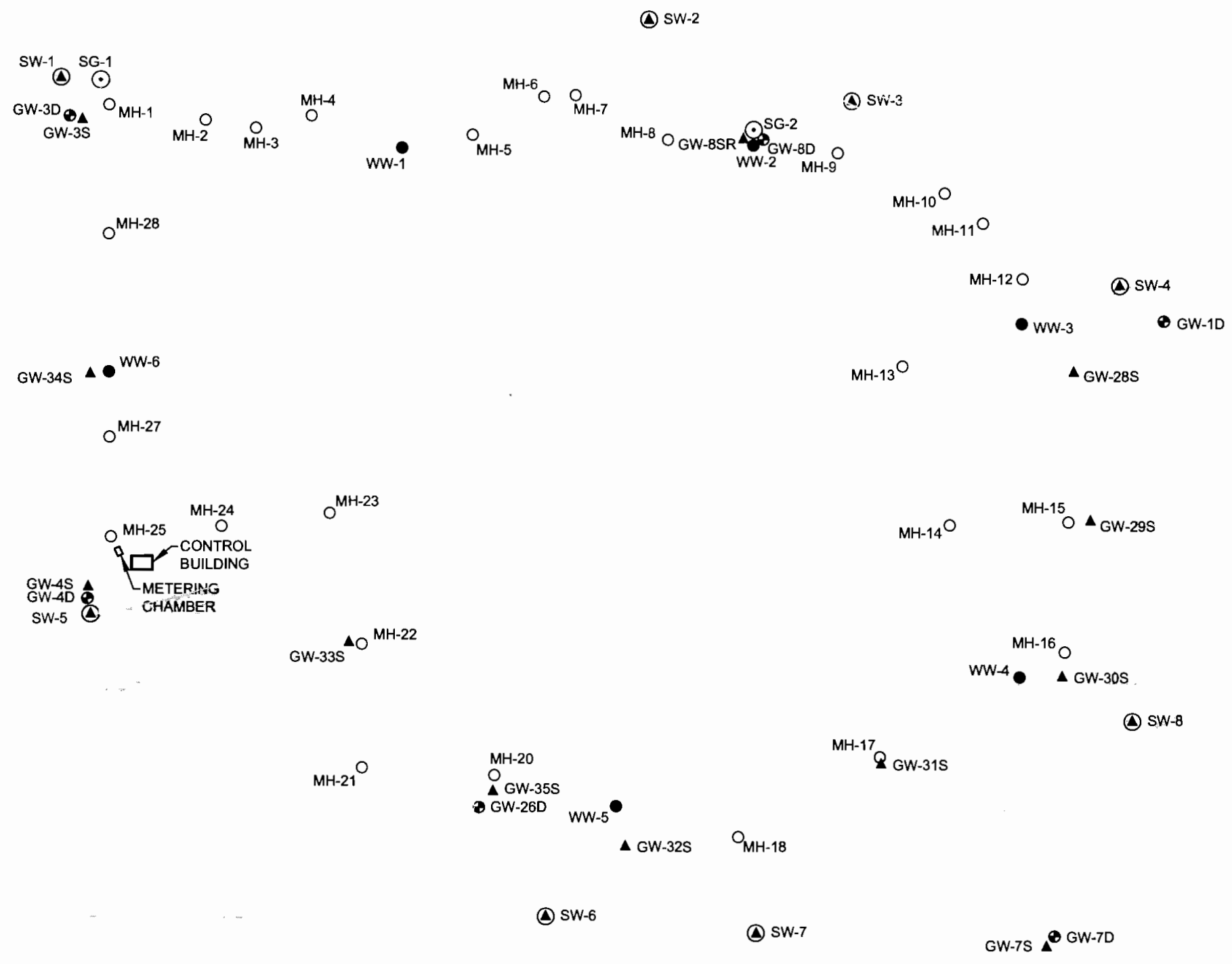


TYPICAL ACCESS MANHOLE DETAIL

figure 2.7

TYPICAL ACCESS MANHOLE DETAIL
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York





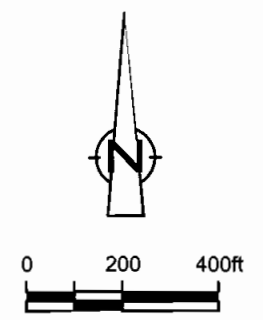
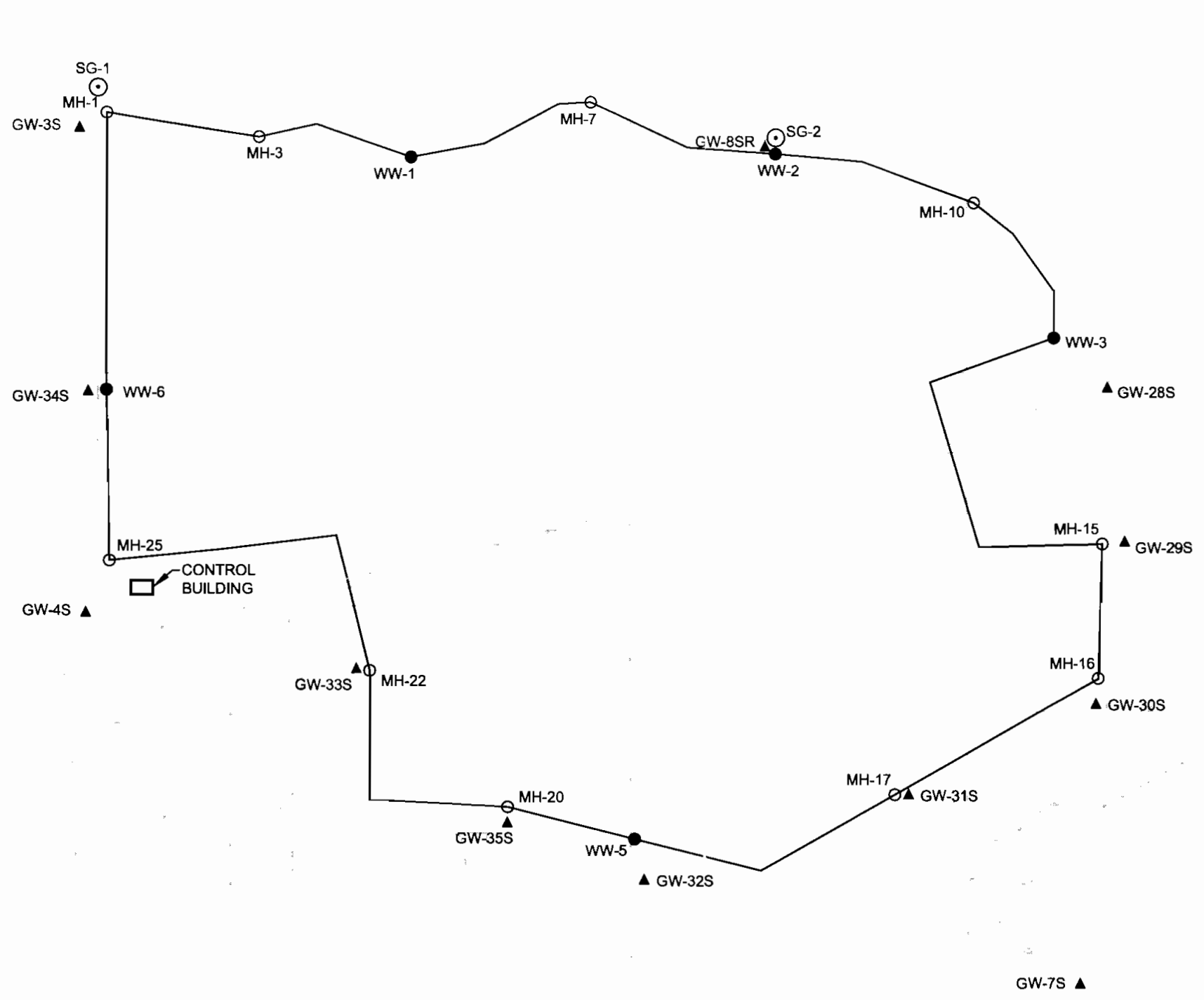
LEGEND

	RAILWAY TRACKS
	SITE BOUNDARY
	SHORE/WATER LINE
	WW-1 WET WELL LOCATION
	MH-3 ACCESS MANHOLE LOCATION
	GW-29S OVERBURDEN GROUNDWATER MONITORING WELL
	SW-5 SURFACE WATER/SEDIMENT SAMPLING LOCATION
	SG-2 STAFF GAUGE LOCATION
	GW-7D BEDROCK GROUNDWATER MONITORING WELL

NOTE:
 COMPILATION OF BASE MAP PROVIDED BY
 ABRAMS USING AERIAL PHOTOGRAPHY
 DATED APRIL 14, 1993



figure 3.1
MONITORING NETWORK
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



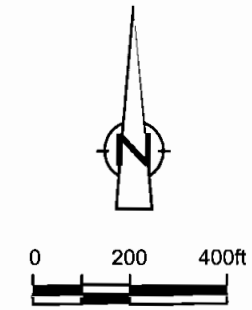
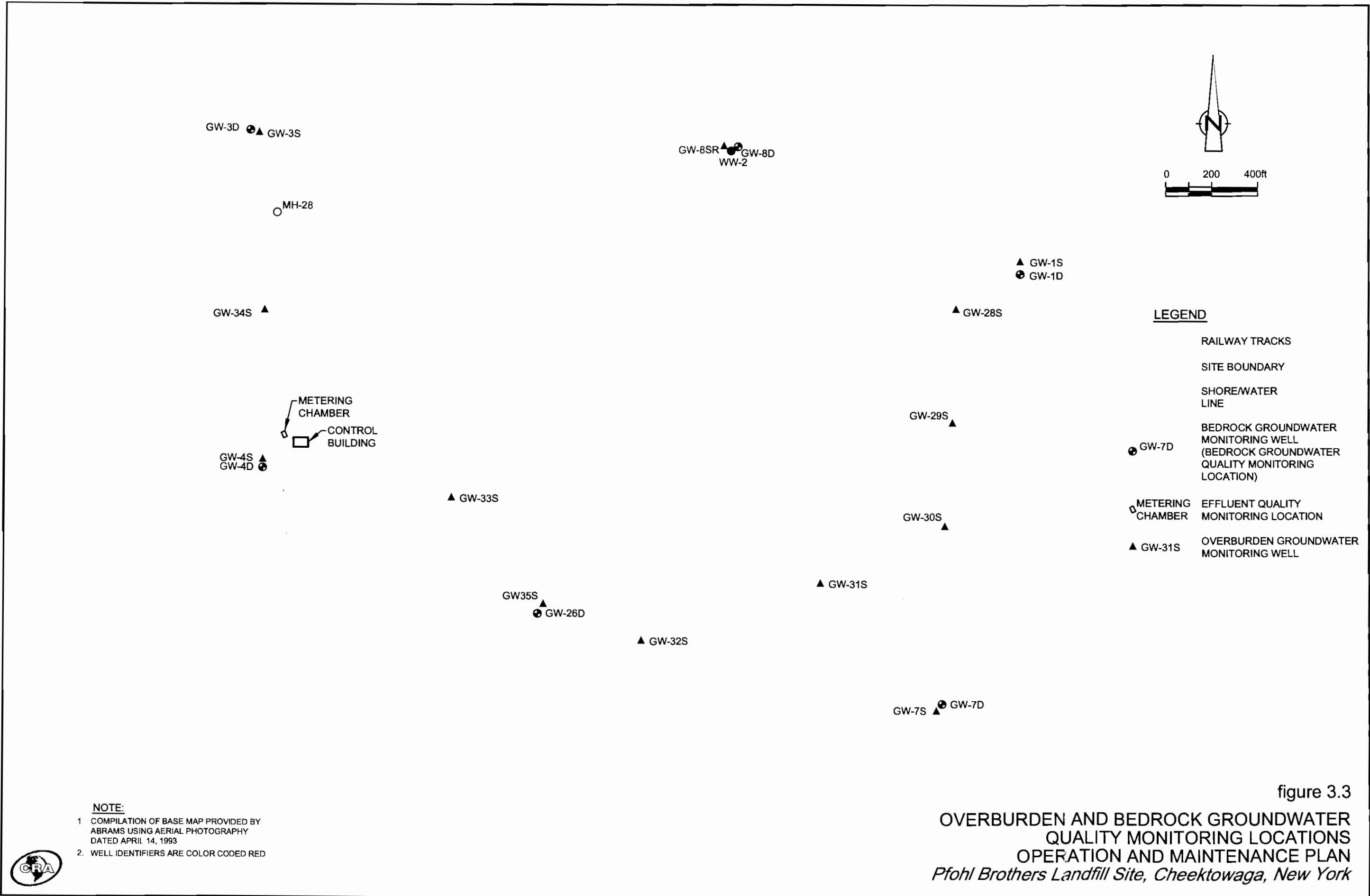
LEGEND

- RAILWAY TRACKS
- SITE BOUNDARY
- SHORE/WATER LINE
- COLLECTION DRAIN ALIGNMENT
- WET WELL LOCATION
- ACCESS MANHOLE LOCATION
- STAFF GAUGE LOCATION
- OVERBURDEN GROUNDWATER MONITORING NETWORK

NOTE:
 1. COMPILATION OF BASE MAP PROVIDED BY ABRAMS USING AERIAL PHOTOGRAPHY DATED APRIL 14, 1993
 2. WELL / MANHOLE IDENTIFIERS ARE COLOR CODED BLUE



figure 3.2
OVERBURDEN HORIZONTAL HYDRAULIC GRADIENT MONITORING LOCATIONS
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



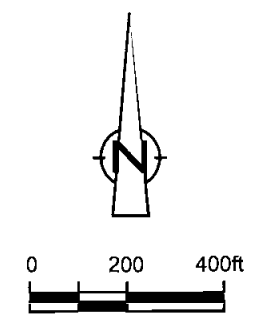
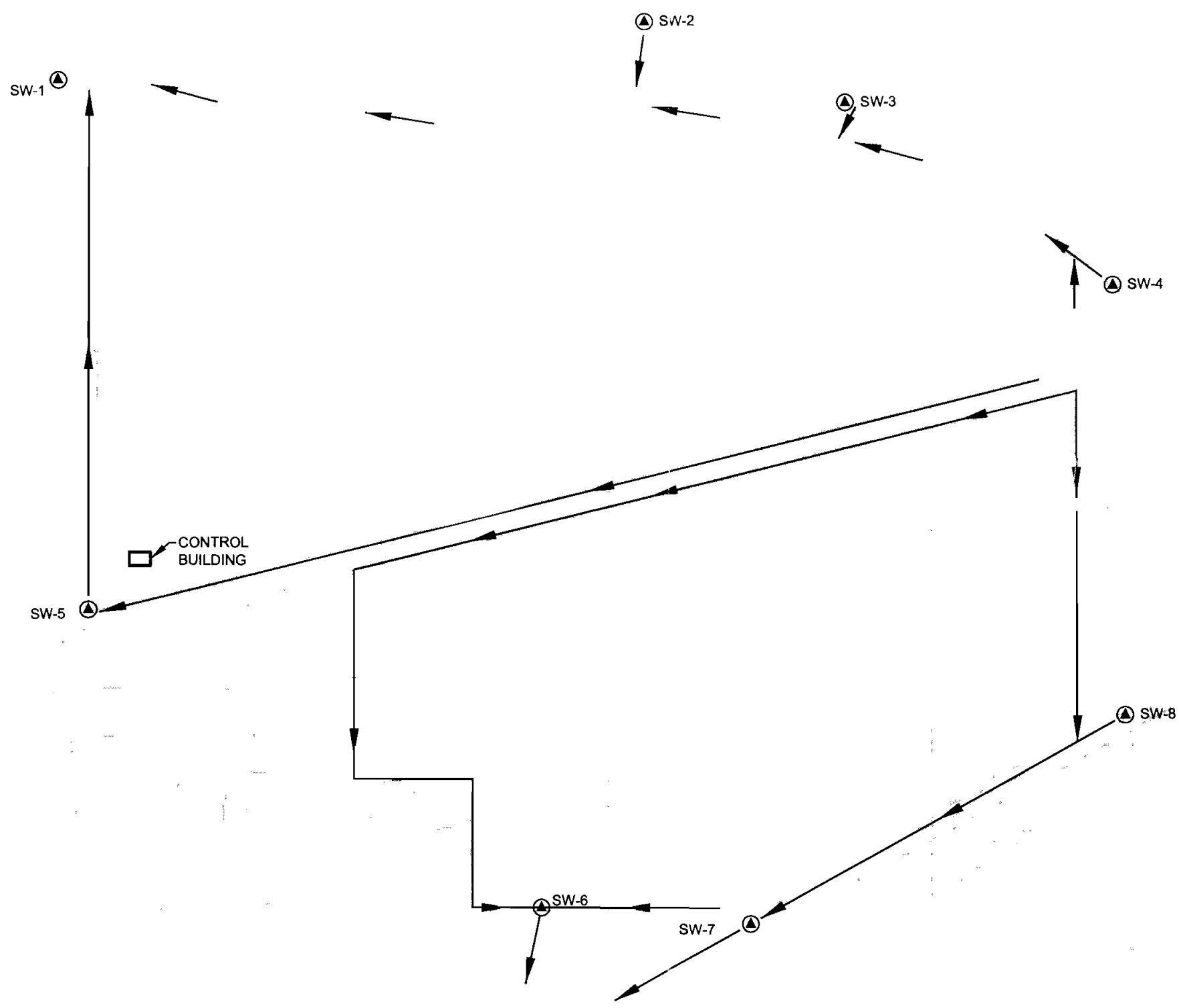
LEGEND

	RAILWAY TRACKS
	SITE BOUNDARY
	SHORE/WATER LINE
	BEDROCK GROUNDWATER MONITORING WELL (BEDROCK GROUNDWATER QUALITY MONITORING LOCATION)
	METERING CHAMBER EFFLUENT QUALITY MONITORING LOCATION
	OVERBURDEN GROUNDWATER MONITORING WELL

NOTE:
 1. COMPILATION OF BASE MAP PROVIDED BY ABRAMS USING AERIAL PHOTOGRAPHY DATED APRIL 14, 1993
 2. WELL IDENTIFIERS ARE COLOR CODED RED

figure 3.3
OVERBURDEN AND BEDROCK GROUNDWATER QUALITY MONITORING LOCATIONS
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



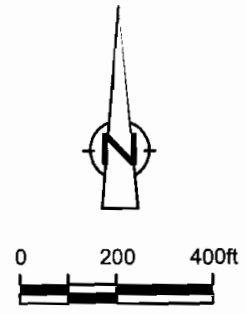
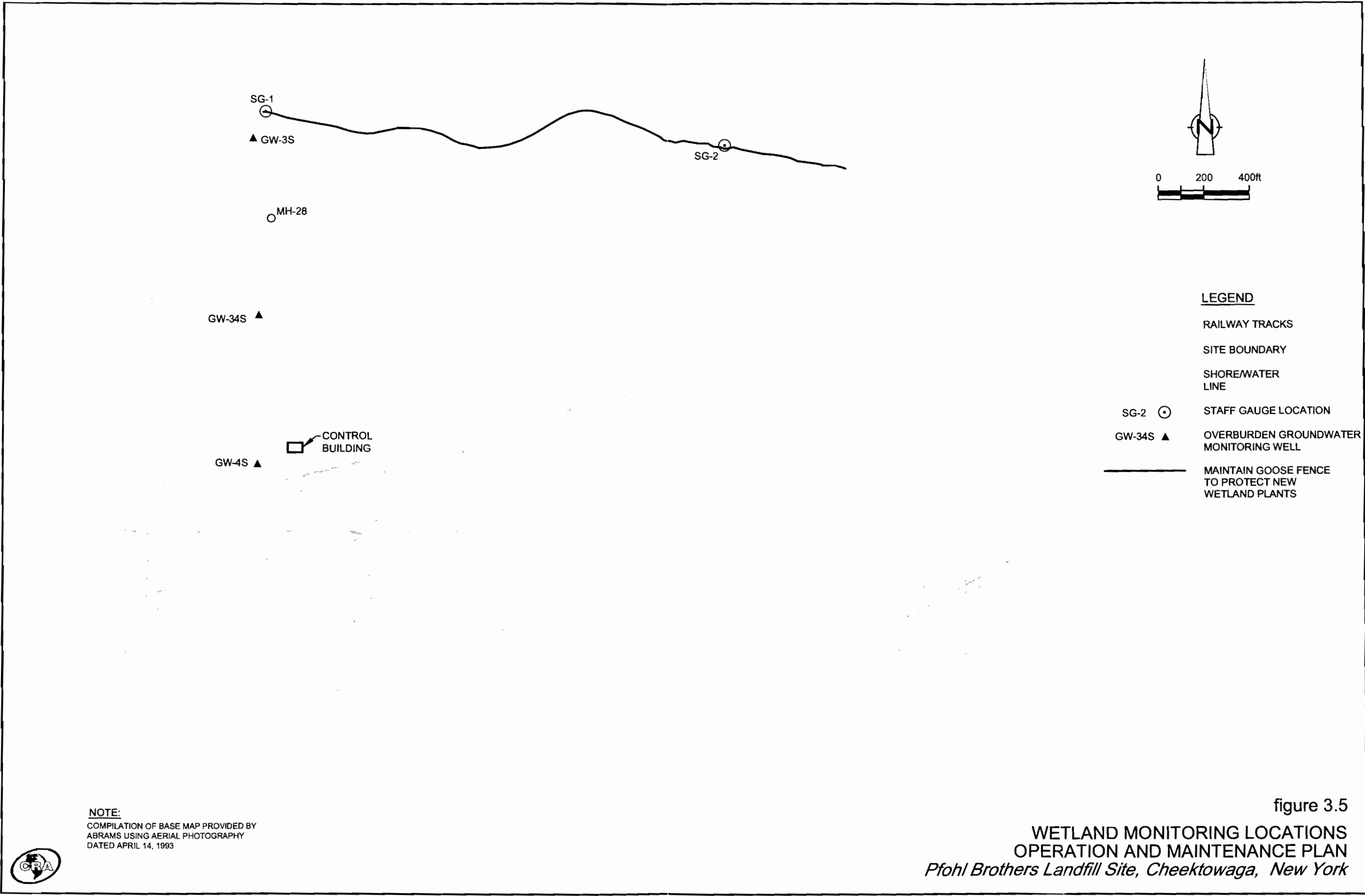


- LEGEND**
- RAILWAY TRACKS
 - SITE BOUNDARY
 - SHORE/WATER LINE
 - SW-5 (triangle symbol) SURFACE WATER/SEDIMENT SAMPLING LOCATION
 - (arrow symbol) DRAINAGE PATH

NOTE:
 COMPILATION OF BASE MAP PROVIDED BY
 ABRAMS USING AERIAL PHOTOGRAPHY
 DATED APRIL 14, 1993

figure 3.4
 SURFACE WATER/SEDIMENT SAMPLING LOCATIONS
 OPERATION AND MAINTENANCE PLAN
 Pfohl Brothers Landfill Site, Cheektowaga, New York





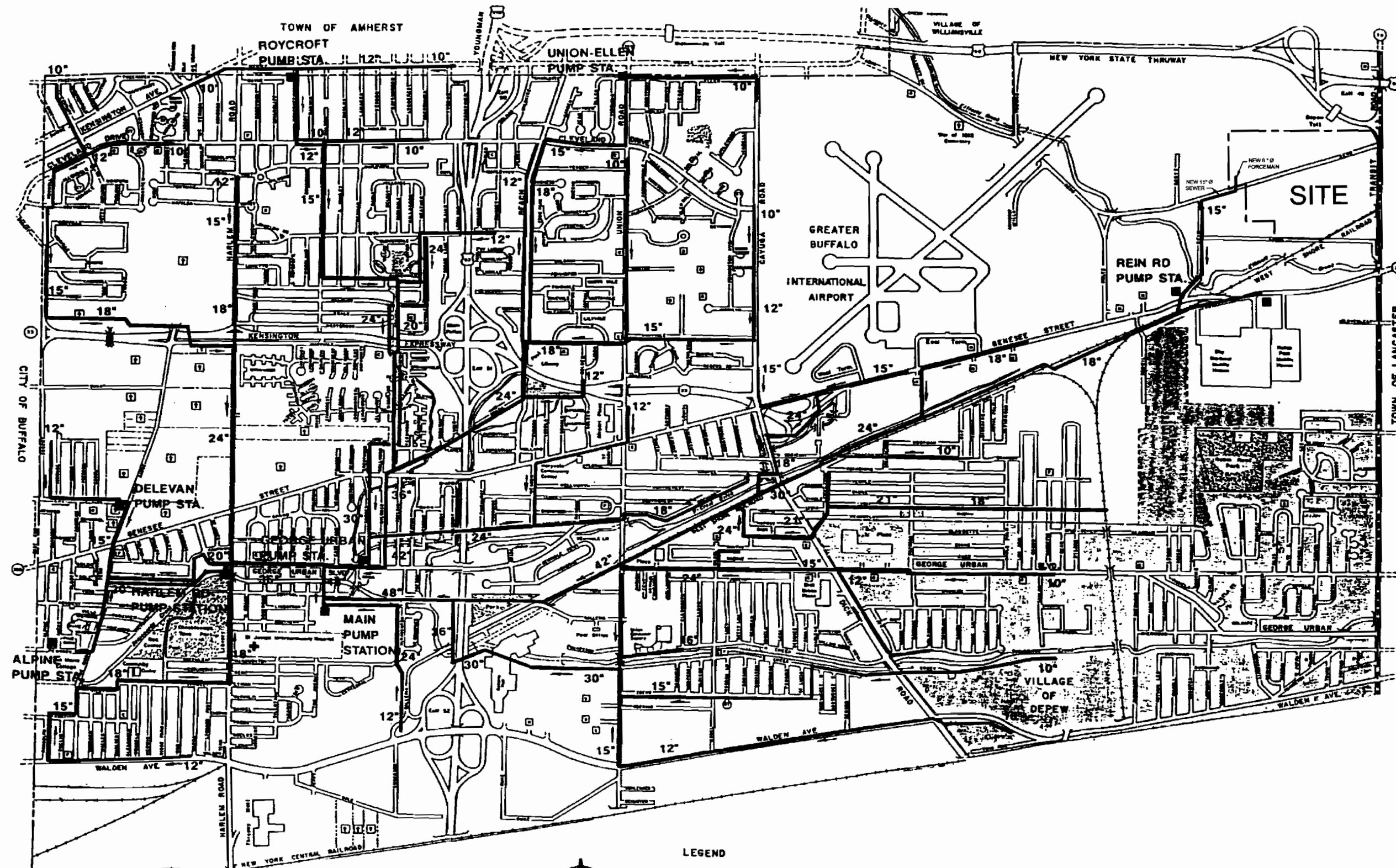
LEGEND

- RAILWAY TRACKS
- SITE BOUNDARY
- SHORE/WATER LINE
- SG-2 STAFF GAUGE LOCATION
- GW-34S OVERBURDEN GROUNDWATER MONITORING WELL
- MAINTAIN GOOSE FENCE TO PROTECT NEW WETLAND PLANTS

NOTE:
 COMPILATION OF BASE MAP PROVIDED BY
 ABRAMS USING AERIAL PHOTOGRAPHY
 DATED APRIL 14, 1993



figure 3.5
WETLAND MONITORING LOCATIONS
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



LEGEND

- CHURCH [Symbol]
- SCHOOL [Symbol]
- FIRE HOUSE [Symbol]
- HOTEL [Symbol]
- CEMETERY [Symbol]

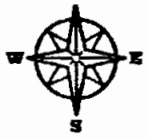
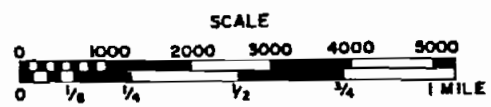


figure 4.1
 SERVICE AREA TRIBUTARY TO MAIN PUMP STATION
 OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



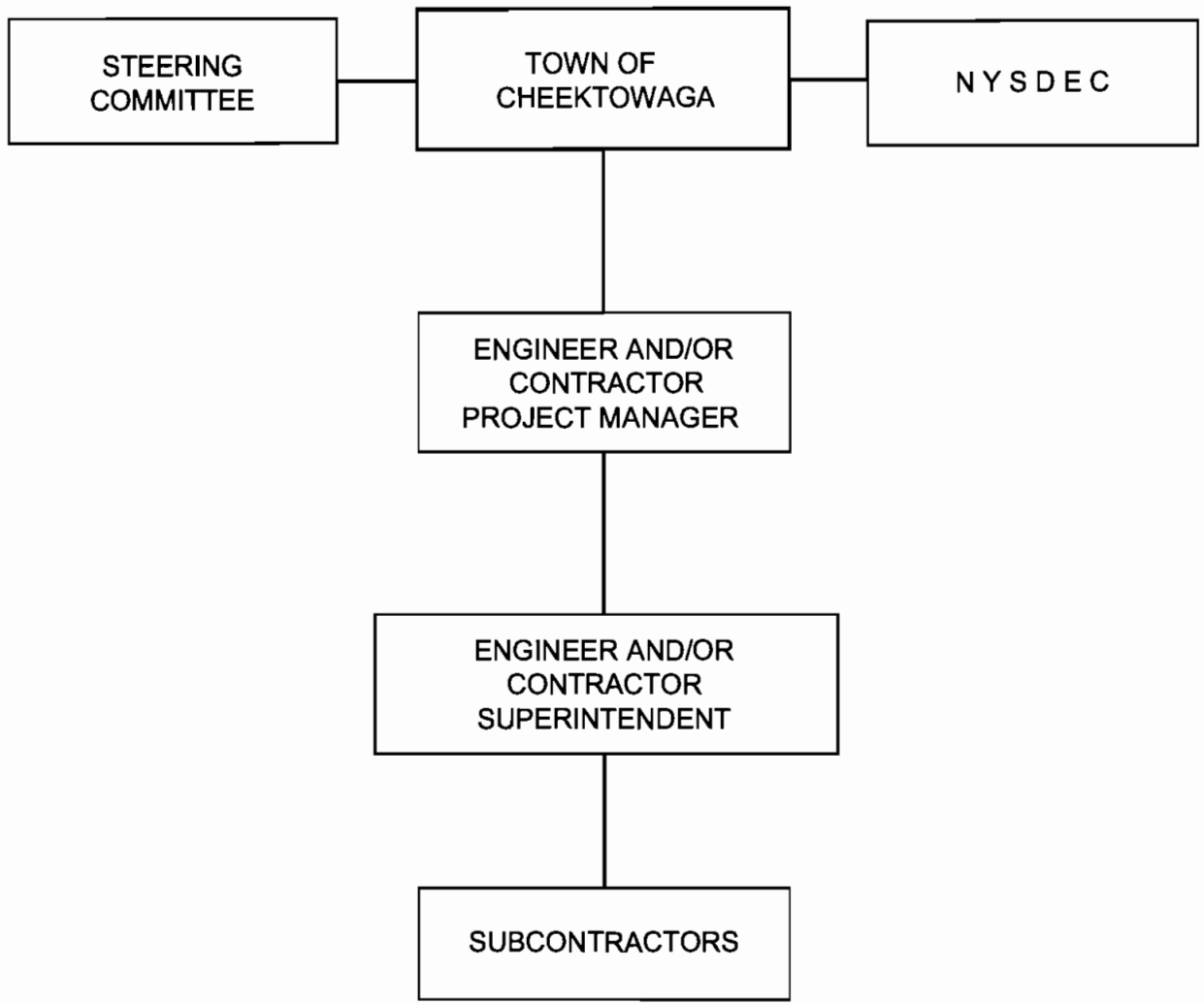


figure 8.1

ORGANIZATION CHART
OPERATION AND MAINTENANCE PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



TABLE 3.1

**GROUNDWATER HYDRAULIC MONITORING LOCATIONS
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

LOCATIONS ⁽¹⁾

MH 1, SG-1, and GW-3S

MH 3 and SG-1

WW 1 and SG-1

MH 7 and SG-2

WW 2, SG-2, and GW-8S (R)

MH 10 and SG-2

WW 3 and GW-28S

MH 15 and GW-29S

MH16 and GW-30S

MH 17 and GW-31S

WW 5 and GW-32S

MH 20 and GW-35S

MH 22 and GW-33S

MH 25 and GW-4S

WW 6 and GW-34S

FREQUENCY

Once every two weeks for first three months, monthly for remainder of first year after startup, quarterly thereafter, review after 5 years.

Note:

(1) Hydraulic monitoring location designations (e.g., MH1) are color coded in blue.

TABLE 3.2

**GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

LOCATIONS⁽¹⁾

GW-1D/1S
GW-3D/3S
GW-4D/4S
GW-7D/7S
GW-8D/8S (R)
GW-26D/35S
GW-28S
GW-29S
GW-30S
GW-31S
GW-32S
GW-33S
GW-34S

FREQUENCY

semi-annually for overburden and bedrock groundwater, review as described in Section 3.1.1.3
annually for radiological parameters by gamma spectroscopy

PARAMETERS Analytical List may be revised after two rounds of sample collection
with NYSDEC concurrence.

Field pH
conductivity
temperature
turbidity

VOCs Chloromethane
Bromomethane
Vinyl chloride
Chloroethane
Methylene chloride
Acetone
Carbon disulfide
1,1,-Dichloroethylene
1,1-Dichloroethane
1,2-Dichloroethylene (total)
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane

TABLE 3.2

**GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

VOCs (cont'd) Carbon tetrachloride
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-Dichloropropene
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethyl benzene
Styrene
Total Xylenes

SVOCs Phenol
bis(2-Chloroethyl)ether
2-Chlorophenol
1,3,-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2'-oxybis(1-Chloro-propane)*
4-Methylphenol
N-Nitroso-di-n-propylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
bis(2-Chloroethoxy)methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylphenol

TABLE 3.2

**GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

SVOCs (cont'd)

- 2-Methylnaphthalene
- Hexachlorocyclopentadiene
- 2,4,6-Trichlorophenol
- 2,4,5-Trichlorophenol
- 2-Chloronaphthalene
- 2-Nitroaniline
- Dimethyl phthalate
- Acenaphthylene
- 2,6-Dinitrotoluene
- 3-Nitroaniline
- Acenaphthene
- 2,4-Dinitrophenol
- 4-Nitrophenol
- Dibenzofuran
- 2,4-Dinitrotoluene
- Diethylphthalate
- 4-Chlorophenyl phenyl ether
- Fluorene
- 4-Nitroaniline
- 4,6-Dinitro-2-methylphenol
- N-Nitrosodiphenylamine
- 4-Bromophenyl phenyl ether
- Hexachlorobenzene
- Pentachlorophenol
- Phenanthrene
- Anthracene
- Carbazole
- Di-n-butyl phthalate
- Fluoranthene
- Pyrene
- Butyl benzyl phthalate
- 3,3'-Dichlorobenzidine
- Benz(a)anthracene
- Chrysene
- bis(2-Ethylhexyl)phthalate
- Di-n-octyl phthalate
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzo(a)pyrene
- Indeno(1,2,3-cd)pyrene
- Dibenz(a,h)anthracene
- Benzo(g,h,i)perylene

TABLE 3.2

**GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

PCBs Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

Metals Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

Cyanide

Dioxins/Furans 2,3,7,8-TCDD
2,3,7,8-TCDF

Radiochemistry by Gamma Spectroscopy (2)

Note:

- (1) Chemical monitoring location designations (e.g., MH1) are color coded in red.
- (2) Each sample for radiochemistry will be filtered by the laboratory to create a dissolved (filtrate) sample and an insoluble (filter) sample. Each sample will be analyzed.

TABLE 3.3

**SURFACE WATER AND SEDIMENT SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

LOCATIONS

SW-1	Aero Creek downstream of Site
SW-2	Runoff swale north of Site and contributing to Aero Creek
SW-3	Drainage channel north of Site and contributing to Aero Creek
SW-4	Aero Creek upstream of Site
SW-5	Aero Drive ditch downstream of Site
SW-6	south Site swale downstream of Site
SW-7	ConRail ditch downstream of Site
SW-8	ConRail ditch upstream of Site

FREQUENCY

annually in wet weather for 2 years

PARAMETERS Analytical List may be revised after two rounds of sample collection with NYSDEC concurrence.

Field pH
conductivity
temperature
turbidity

VOCs Chloromethane
Bromomethane
Vinyl chloride
Chloroethane
Methylene chloride
Acetone
Carbon disulfide
1,1-Dichloroethylene
1,1-Dichloroethane
1,2-Dichloroethylene (total)
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon tetrachloride
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene

TABLE 3.3

**SURFACE WATER AND SEDIMENT SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

VOCs (cont'd) trans-1,3-Dichloropropene
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethyl benzene
Styrene
Total Xylenes

SVOCs Phenol
bis(2-Chloroethyl)ether
2-Chlorophenol
1,3,-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2'-oxybis(1-Chloro-propane)*
4-Methylphenol
N-Nitroso-di-n-propylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
bis(2-Chloroethoxy)methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylphenol
2-Methylnaphthalene
Hexachlorocyclopentadiene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2-Chloronaphthalene
2-Nitroaniline
Dimethyl phthalate
Acenaphthylene

TABLE 3.3

**SURFACE WATER AND SEDIMENT SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

SVOCs (cont'd) 2,6-Dinitrotoluene
 3-Nitroaniline
 Acenaphthene
 2,4-Dinitrophenol
 4-Nitrophenol
 Dibenzofuran
 2,4-Dinitrotoluene
 Diethylphthalate
 4-Chlorophenyl phenyl ether
 Fluorene
 4-Nitroaniline
 4,6-Dinitro-2-methylphenol
 N-Nitrosodiphenylamine
 4-Bromophenyl phenyl ether
 Hexachlorobenzene
 Pentachlorophenol
 Phenanthrene
 Anthracene
 Carbazole
 Di-n-butyl phthalate
 Fluoranthene
 Pyrene
 Butyl benzyl phthalate
 3,3'-Dichlorobenzidine
 Benz(a)anthracene
 Chrysene
 bis(2-Ethylhexyl)phthalate
 Di-n-octyl phthalate
 Benzo(b)fluoranthene
 Benzo(k)fluoranthene
 Benzo(a)pyrene
 Indeno(1,2,3-cd)pyrene
 Dibenz(a,h)anthracene
 Benzo(g,h,i)perylene

PCBs Aroclor 1016
 Aroclor 1221
 Aroclor 1232
 Aroclor 1242
 Aroclor 1248
 Aroclor 1254
 Aroclor 1260

TABLE 3.3

**SURFACE WATER AND SEDIMENT SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

PARAMETERS (cont'd)

Metals Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

Cyanide

Radiochemistry by Gamma Spectroscopy (1)

Note:

- (1) For surface water samples only. Each sample for radiochemistry will be filtered by the laboratory to create a dissolved (filtrate) sample and an insoluble (filter) sample. Each sample will be analyzed.

TABLE 3.4

**OVERBURDEN GROUNDWATER COLLECTION SYSTEM
SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

LOCATIONS

discharge sampling port in the metering chamber

FREQUENCY

As required by the Buffalo Sewer Authority
- monthly for first permit
- annual for radiochemistry

PARAMETERS ⁽¹⁾

PP Volatiles - Method 624
PP Semi-Volatiles - Method 625
PP Pesticides/PCBs - Method 608

Selected Metals - 200 Series

Barium
Cadmium
Chromium
Copper
Lead
Mercury
Zinc

pH - Method 150.1

Radiochemistry by Gamma Spectroscopy ⁽²⁾
Method 901.1

Note:

- (1) Parameters are as required by the Buffalo Sewer Authority for the initial permanent permit.
- (2) Each sample for radiochemistry will be filtered by the laboratory to create a dissolved (filtrate) sample and an insoluble (filter) sample. Each sample will be analyzed.

TABLE 3.5

**CONTACTS FOR PROPERTY ACCESS
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

<i>Contact Person and Address</i>	<i>Off-Site Sampling Locations</i>
Moran, Sadie c/o Gloria Moran 8740 Wenner Road Buffalo, NY 14221	Groundwater Quality: GW-3D Hydraulic: GW-4D, GW-4S Surface Water: SW-1 Wetlands: GW-3S, GW-4S
Niagara Mohawk Power Corp. c/o Joseph Finnerty, Esq. 1800 Main Place Plaza Buffalo, NY 14202	Hydraulic: GW-34S Wetlands: GW-34S
Pfohl, William A. & I. c/o Robert E. Knoer, Esq. 14 Lafayette Square Suite 1700 Buffalo, NY 14203	Hydraulic: SG-1 Wetlands: SG-1
Paul Pfohl, Delores Pfohl, and Bernice Pfohl c/o Rick Kennedy, Esq. Hodgson, Russ, Andrews, Wood & Goodyear 1800 One M&T Plaza Buffalo, NY 14203	Hydraulic: SG-2 Wetlands: SG-2
New York State Thruway Ontario Section 200 Southern Boulevard Albany, NY	Surface Water: SW-2, SW-3
Transit Road ROW NYSDOT	Surface Water: SW-4 Hydraulic: GW-1S, GW-1D
Davey Tree Expert Co., Inc. 1500 Mantua Street Kent, OH 44240	Groundwater Quality: GW-7S, GW-7D
Con Rail Corp. Property Tax Department P.O. Box 8433 Philadelphia, PE 13101	Surface Water: SW-7, SW-8
Aero Drive ROW Erie County	Surface Water: SW-5
Pfohl Road ROW Town of Cheektowaga	Surface Water: SW-6

TABLE 5.1

**INSPECTION AND PREVENTATIVE MAINTENANCE SCHEDULE
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

<i>Item</i>	<i>Inspect For</i>	<i>Monthly</i>	<i>Quarterly</i>	<i>Annually</i>
1. Groundwater Collection and Discharge System				
Manholes	- cover in place - condition of cover and lock - condition of inside of manhole - flow unrestricted, manhole free of obstructions and sediment	*		
Wet Wells	- cover securely locked - condition of cover and lock - condition of inside of wet well	*		
2. Landfill Cap and Consolidated Areas				
Vegetated Soil Cover	- erosion, bare areas, washouts, leachate seeps, length of grass, dead/dying grass		*	
Access Roads	- erosion, obstructions, potholes, puddles, debris		*	
Perimeter Fence	- integrity of fence, gates, locks, placement and condition of signs		*	
Grass	- bare areas, length of grass, dead/dying grass		*	
Drainage Ditches	- sediment build-up, erosion, condition of erosion protection, obstructions, dead/dying grass		*	
Culverts	- sediment build-up, erosion, condition of erosion protection, obstructions, debris		*	
3. Wetlands				
Water Levels	- general condition of water budget and water levels	*		
Erosion Protection	- general condition and stability, replacement requirements	*		
Sediments	- build-up of sediments, flow restrictions	*		
Vegetated Cover	- bare areas, washouts, dead/dying plants - undesirable plants such as reed grass, cattail, or purple loosestrife - Phragmites australis	*		*(1)
4. Off-Site Surface Water Drainage Pathways				
Ditches and Culverts			*	
Aero Creek			*	
Ellicott Creek			*	

Note:

(1) To be performed for a period of 5 years.

TABLE 5.2

**POTENTIAL PROBLEMS AND APPROPRIATE CORRECTIVE ACTIONS
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

<i>Areas of Concern</i>	<i>Potential Problem</i>	<i>Action</i>
Groundwater Collection System		
Groundwater Collection Pipe	Blockage in pipe. Will restrict groundwater flow. Water level may not be maintained at desired elevations.	Pressure flush pipe sections that are plugged. Vacuum sediments and debris from manholes and wet wells.
Locks for Covers	Vandalism. Site security.	Replace and secure locks as necessary. Make sure locks are operational.
Barrier Wall	Leakage through barrier wall. Dewatering of adjacent wetlands. Excessive flow in collection pipe.	Determine section of barrier wall requiring repair. Excavate and reconstruct barrier wall to original construction specifications.
Landfill Cap		
Vegetated Soil Cover	Washout and erosion of grass, topsoil, clay, or sand. Typically on steep slopes.	Take immediate action to prevent further erosion and to protect exposed refuse. Recover washed out soil. This material may be used to restore the eroded area. Backfill with additional soil to original cover design thickness. Reseed with grass. If seeding slopes, erosion control mat is recommended.
	Bare areas.	Loosen and till topsoil. Re-seed and mulch as necessary. Perform restoration as soon as possible.
	Settlement of original cover. Standing water. Dry bare areas.	Assess size of settlement and potential impact to drainage or low permeability layers. Till topsoil and grade. Add additional topsoil if necessary. Check final elevation to ensure adequate drainage. Re-seed and mulch. Topsoil regrading should be sufficient to correct minor ponding. Additional soil may be required for significant ponding.
	Dead/dying grass (potential for erosion).	Till topsoil and re-seed. Cover with erosion control mat or mulch.
	Weeds/bushes. Deterioration of grasses. Potential penetration through cover if left unattended.	Remove all bushes and tall weeds. Re-seed as required. Perform annually as a minimum.

TABLE 5.2

**POTENTIAL PROBLEMS AND APPROPRIATE CORRECTIVE ACTIONS
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

<i>Areas of Concern</i>	<i>Potential Problem</i>	<i>Action</i>
Landfill Cap (continued)		
Vegetated Soil Cover (continued)	Animal holes/burrows. Safety hazard. Potential for soil cover erosion.	Capture and remove rodents. Excavate area carefully and inspect HDPE liner. Seal any holes in liner. Replace cover soil and topsoil as required in specifications. Seed and mulch.
	Sediment or obstruction in ditch, swale, or culvert. Smothering and killing of sod and interruption of normal surface water flow pattern.	Remove sediment and stockpile as topsoil for future repairs. Replace sod or re-seed and mulch if damaged.
	Groundwater seeps.	Strip topsoil and remove cap material. Excavate through material/layer restricting leachate flow to collection system. Replace and compact material to required specifications. Replace topsoil and apply seed and mulch. Pressure flush leachate collection system.
Access Roads	Washed out surface gravel or sub-base material.	Recover washed out gravel. This material may be used to restore the eroded area. Backfill to specifications. Backfill and compact to original grade.
	Potholes (potential safety hazard).	Backfill and compact to grade as required in specifications.
	Puddles (potential safety hazard).	Backfill and compact to grade as required in specifications.
	Obstructions (safety hazard).	Remove obstructions as soon as possible. Place in secure area pending off-Site removal.
Gates and Locks	Vandalism. Site security.	Replace and secure locks as necessary. Make sure locks are operational.
Perimeter Fence	Forced entry or seasonal damage.	Repair or replace as needed.
Signs	Tampering or theft.	Repair or replace signs.
Drainage Ditches	Sod drying out. Riprap displaced. Obstructions or debris.	Irrigate dry areas. Replace stone cover as specified. Remove obstructions or debris which may affect flow.

TABLE 5.2

POTENTIAL PROBLEMS AND APPROPRIATE CORRECTIVE ACTIONS
 OPERATION AND MAINTENANCE PLAN
 PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

<i>Areas of Concern</i>	<i>Potential Problem</i>	<i>Action</i>
Wetlands		
Water Level	Overflow or dramatic variations in water level have potential for erosion.	If levels are rising dramatically, check for sediment build-up and obstructions.
Erosion Protection	Displaced riprap. Potential for erosion in bare areas.	Replace riprap cover to original thickness. Repair or replace geotextile as needed.
	Washout of grass, topsoil, sand, or riprap typically on steep slopes. Take immediate action.	Backfill or replace displaced materials to match original cover. Sod or seed with turf grasses to match existing conditions, mulch if necessary. Refer to detail plan for construction and material specifications.
Slope/Bank Erosion	Obstructions causing overflow. Structural damage. Debris.	Remove obstructions and/or debris. Inspect for cracks or structural damages. Initiate repair as soon as possible.
Sediment Build-up	Obstruction to flow. May indicate erosion.	Remove sediments on a regular basis to maintain consistent flow conditions. Check for erosion problems upstream of sediment accumulation.
Vegetation	Undesirable plants overcome and impact growth of more valuable wetland plants.	Remove undesirable plants and revegetate lost or impacted wetland species.
	Phragmites in Wetlands Adjacent to Aero Creek	If stems are observed in the wetlands, spray or wipe stems with Rodeo herbicide during September or early October of that year.
Other Unforeseen Problems		Record problem on Inspection Log. Notify Project Manager for appropriate action.

TABLE 8.1

**PERSONNEL REQUIREMENTS
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK**

Monitoring and Testing Activities

- groundwater monitoring one or two person monitoring/sampling crew
- surface water monitoring two person monitoring/sampling crew
- wetlands monitoring one person monitoring/sampling crew
- discharge monitoring one person monitoring/sampling crew

Inspection Activities

- all inspection activities except those requiring confined space entry one Inspector
- all inspection activities requiring confined space entry one Inspector and Support Team

Maintenance Activities

- all maintenance activities one Inspector plus Maintenance Contractor's crew

Operation Activities

- all operation activities as appropriate

APPENDIX A

STANDARD FORMS

LIST OF STANDARD FORMS

FORM 1	GROUNDWATER SAMPLING EQUIPMENT AND SUPPLY CHECKLIST
FORM 2	GROUNDWATER SAMPLING • COMPLETION CHECKLIST
FORM 3	WELL INSPECTION SUMMARY
FORM 4	GROUNDWATER SAMPLING • WELL PURGING INFORMATION FORM
FORM 5	GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET
FORM 6	SURFACE WATER AND SEDIMENT SAMPLING EQUIPMENT AND SUPPLY CHECKLIST
FORM 7	SURFACE WATER AND SEDIMENT SAMPLING • COMPLETION CHECKLIST
FORM 8	SURFACE WATER AND SEDIMENT SAMPLING • FIELD INFORMATION FORM
FORM 9	SURFACE WATER AND SEDIMENT SAMPLING • SAMPLE COLLECTION DATA SHEET
FORM 10	GROUNDWATER DISCHARGE SAMPLING EQUIPMENT AND SUPPLY CHECKLIST
FORM 11	GROUNDWATER DISCHARGE SAMPLING • COMPLETION CHECKLIST
FORM 12	GROUNDWATER DISCHARGE SAMPLING • FIELD INFORMATION FORM
FORM 13	GROUNDWATER DISCHARGE SAMPLING • SAMPLE COLLECTION DATA SHEET
FORM 14	WATER LEVEL MEASUREMENT EQUIPMENT AND SUPPLY CHECKLIST
FORM 15	WATER LEVEL MEASUREMENT • COMPLETION CHECKLIST
FORM 16	WATER LEVEL RECORDS
FORM 17	MONTHLY INSPECTION LOG

LIST OF STANDARD FORMS

FORM 18

MAINTENANCE RECORD LOG

FORM 19

TRAINING ACKNOWLEDGMENT FORM

Date: _____

Project No.: 1979

GROUNDWATER SAMPLING EQUIPMENT AND SUPPLY CHECKLIST

EQUIPMENT:

- Well pump/power cable (spare)
- Generator
- Bailer(s)
- Tubing
- Container for purge water

SUPPLIES:

- Gasoline can/gas
- Polypropylene rope
- Aluminum foil
- Paper towels
- pH buffer solution(s)
- Conductivity standard solution(s)
- Decontamination fluids
 - Deionized water
 - Hexane (pesticide grade)
 - Methanol (pesticide grade)
 - Nitric acid rinse
- Sample jars (extra)
Sample jar labels
- Cooler(s)/ice packs/packing materials
- Paper cups
- Trash bags
- Bailer brush
- Sample preservatives
- Disposable droppers
- Plastic spray bottles
- Plastic basin or pan
- Polyethylene sheeting

INSTRUMENTS:

- Water level indicator
- Thermometer *
- pH meter *
- Conductivity probe *
- Turbidity meter (Nephelometer)
- Other _____
- * - or combination pH/cond/temp meter

PERSONAL PROTECTIVE EQUIPMENT:

- Tyveks (assorted sizes and types)
- Nitrile gloves
- Hard hats/liner
- Field overboots
- Work gloves (cotton and chemical resistant)
- Safety glasses/or side shields on
OSHA-approved prescription lenses
- First-aid kit
- Respirator
- Check Health and Safety Plan

DOCUMENTATION:

- Chain-of-Custody forms
- Well logs
- Notebook/Field book
- Photolog
- Courier manifests
- Previous well logs/
previous historical well data
- Site map
- O&M Plan

MISCELLANEOUS:

- Well cap keys and Site access keys
- Bolt cutters
- Camera/film
- Knife
- Spare batteries for instruments
- Lock de-icer (winter)
- Reinforced packing tape
- Custody seal tape
- Pen/pencil/indelible marking pen
- Tool box
- Spare locks/keys

Completed by: _____

Date: _____

JRM 1

Date _____

Project No.: 1979

GROUNDWATER SAMPLING • COMPLETION CHECKLIST

PRIOR PLANNING AND COORDINATION:

- Confirm well numbers, location and accessibility.
- Review of project documents (i.e., QAPP, HSP, and sampling procedures in the O&M Plan), sampling QA/QC, and site-specific sampling requirements.
- Historical well data; depth, pH, performance and disposition of purge water.
- Site access notification and coordination.
- Coordinated with laboratory.
- Procured, inventoried, and inspected all equipment and supplies.
- Prepared, calibrated, and performed required maintenance on equipment.

FIELD PROCEDURE:

- Instruments calibrated daily.
- Sampling equipment decontaminated in accordance with the QAPP.
- Initial well measurements logged.
- Well volume calculated and specified volumes removed.
- Purged water collected.
- Specified samples and QA/QC samples taken per Quality Assurance Project Plan (QAPP).
- Samples properly labeled, preserved, and packed.
- Well was secured after completion of sampling.
- Sample dates, times, locations and sample numbers recorded in applicable log(s).
- Samples properly stored if not shipped/delivered to lab same day.
- Samples shipped with complete and accurate Chain-of-Custody record.

FOLLOW-UP ACTIVITIES:

- All equipment has been maintained, decontaminated, and returned.
- Sampling information reduced and required sample keys and field data distributed.
- Chain-of-Custody records filed.
- Expendable stock supplies replaced.
- Access keys and well cap keys returned.
- Arranged disposal/treatment for purged water and decontamination fluids.
- Confirm all samples collected.

Completed by: _____

Date: _____

FORM 2

WELL INSPECTION SUMMARY

PROJECT NAME: Pfohl Brothers Landfill

PROJECT NO.: 1979

INSPECTION CREW MEMBERS: _____

SUPERVISOR: _____

DATE OF INSPECTION:

(MM	DD	YY)		

<i>Well I.D. Number</i>	<i>Lock</i>	<i>Surface Seal</i>	<i>Protective Casing</i>	<i>Riser</i>	<i>Water Level (ft. BTOC)</i>	<i>Well Depth (ft. BTOC)</i>	<i>Other Comments</i>

Additional Comments: _____

FORM 3

GROUNDWATER SAMPLING • WELL PURGING INFORMATION

SITE/PROJECT NAME: Pfohl Brothers Landfill
 DATE:

--	--	--	--

 (MM DD YY)
 CREW MEMBERS: _____
 SUPERVISOR: _____
 PURGING METHOD: _____

WELL INFORMATION

WELL NUMBER: _____
 WELL TYPE (diameter/material): _____
 MEASURING POINT ELEVATION: _____
 STATIC WATER DEPTH: _____ ELEVATION _____
 BOTTOM DEPTH: _____ ELEVATION _____
 WATER COLUMN LENGTH: _____
 SCREENED INTERVAL: _____
 WELL VOLUME: _____

Note: For 2" dia. well, 1 foot = 0.14 gallons (Imp.) or 0.16 gallons (US).
 For 4" dai. well, 1 foot = 0.54 gallons (Imp.) or 0.65 gallons (US).

	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total volume)						
FIELD pH						
FIELD TEMPERATURE						
FIELD CONDUCTIVITY						
CLARITY/TURBIDITY VALUES (NTU)						
COLOR						
ODOR						
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

DATE _____ PRINT NAME _____ SIGNATURE _____

FORM 4

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: Pfohl Brothers Landfill

PROJECT NO.: 1979

INSPECTION CREW MEMBERS: _____

SUPERVISOR: _____

DATE OF INSPECTION:

(MM	DD	YY)			

Sample I.D. Number	Well Number	Well Volume (Gallons)	Volume Purged (Gallons)	Sample Time	Sample Description	Analysis Required	Chain-of-Custody Number

Additional Comments: _____

FORM 5

Date: _____

Project No.: 1979

SURFACE WATER AND SEDIMENT SAMPLING EQUIPMENT AND SUPPLY CHECKLIST

INSTRUMENTS:

- Steel tape (100 ft)
- Stop watch
- Calculator

SUPPLIES:

- Aluminum foil
- Paper towels
- pH buffer solution(s)
- Decontamination fluids
 - Deionized water
 - Hexane (pesticide grade)
 - Methanol (pesticide grade)
 - Nitric acid rinse
- Sample jars (extra)
- Sample jar labels
- Cooler(s)/ice packs/packing materials
- Trash bags
- Sample preservatives
- Disposable droppers
- Plastic spray bottles
- Plastic basin or pan
- Polyethylene sheeting

MISCELLANEOUS:

- Site access keys
- Camera/film
- Knife
- Spare batteries for instruments
- Lock de-icer (winter)
- Duct tape
- Reinforced packing tape
- Custody seal tape
- Pen/pencil/indelible marking pen
- Tool box

EQUIPMENT:

- Sampling telescopic pole
- Thermometer
- pH meter
- Turbidity meter (Nephelometer)
- Stainless Steel Sampling Spoon/Scoop
- Stainless Steel Mixing Bowl

PERSONAL PROTECTIVE EQUIPMENT:

- Waders/overboots
- Life vest
- Safety line
- Nitrile gloves
- Hardhat/liner
- Safety glasses/or side shields on OSHA-approved prescription lenses
- First-aid kit
- Check Health and Safety Plan

DOCUMENTATION:

- Chain-of-Custody forms
- Notebook/Field book
- Photolog
- Courier manifests
- Site map
- O&M Plan

Completed by: _____

Date: _____

ORM 6

Date: _____

Project No.: 1979

SURFACE WATER AND SEDIMENT SAMPLING
• COMPLETION CHECKLIST

PRIOR PLANNING AND COORDINATION:

- Confirm water/sediment sample locations and number.
- Review of project documents (i.e., QAPP, HSP, and sampling procedures in the O&M Plan), sampling QA/QC, and Site-specific sampling requirements.
- Site access notification coordination.
- Coordinated with laboratory.
- Procured, inventoried, and inspected all equipment and supplies.
- Prepared, calibrated, and performed required maintenance on equipment.

FIELD PROCEDURE:

- Sampling equipment decontaminated in accordance with the QAPP.
- Temperature, pH, and turbidity logged.
- Sampling details logged in appropriate field book and field form.

FOLLOW-UP ACTIVITIES:

- All equipment has been maintained, decontaminated, and returned.
- Sampling information reduced and required sample keys and field data distributed.
- Chain-of-Custody records filed.
- Expendable stock supplies replaced.
- Access keys returned.
- Arranged disposal/treatment for decontamination fluids.
- Confirm all samples collected.

Completed by: _____

Date: _____

FORM 7

SURFACE WATER AND SEDIMENT SAMPLING • FIELD INFORMATION FORM

SITE/PROJECT NAME: Pfohl Brothers Landfill

LOCATION S W - | | | |

| | | | |

SAMPLE DATE
(MM DD YY)

| | |

ESTIMATED STREAM WIDTH
(ft)

| | |

ESTIMATED STREAM WIDTH
(ft)

| | |

ESTIMATED VELOCITY
(ft./min.)

FIELD OBSERVATIONS

Predominant Surrounding Land Use: _____

Local Erosion: _____

FIELD COMMENTS

SAMPLE APPEARANCE: _____ ODOR: _____ COLOR: _____ TURBIDITY: _____

WEATHER CONDITIONS: WIND SPEED _____ DIRECTION: _____ PRECIPITATION OUTLOOK (Y/N): _____

ADDITIONAL COMMENTS: _____

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

FORM 8

DATE

PRINT NAME

SIGNATURE

SURFACE WATER AND SEDIMENT SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: Pfohl Brothers Landfill PROJECT NO.: 1979

SAMPLING CREW MEMBERS: _____ SUPERVISOR: _____

DATE OF SAMPLE COLLECTION:

--	--	--	--	--	--

(MM DD YY)

Sample I.D. Number	Sample Location	Est. Stream Width	Est. Stream Depth	Est. Stream Velocity	Field pH	Field Temp.	Field Turb.	Time	Sample Description & Analysis	Chain-of-Custody Number	Precip. in Previous Week (Y/N)

Additional Comments: _____

Date: _____

Project No.: 1979

GROUNDWATER DISCHARGE SAMPLING EQUIPMENT AND SUPPLY CHECKLIST

EQUIPMENT:

- Thermometer
- pH meter
- Turbidity meter (Nephelometer)

SUPPLIES:

- Paper towels
- pH buffer solution(s)
- Decontamination fluids
 - Deionized water
 - Hexane (pesticide grade)
 - Methanol (pesticide grade)
 - Nitric acid rinse
- Sample jars (extras)
- Sample jar labels
- Cooler(s)/ice packs/packing materials
- Trash bags
- Sample preservatives
- Disposable droppers
- Plastic basin or pan
- Polyethylene sheeting

PERSONAL PROTECTIVE EQUIPMENT:

- Nitrile gloves
- Hard hat/liner
- Safety glasses/or sideshields on OSHA-approved prescription lenses
- First-aid kit
- Respirator
- Check Health and Safety Plan

DOCUMENTATION:

- Chain-of-Custody forms
- Notebook/Field book
- Courier manifests
- Site map
- O&M Plan

MISCELLANEOUS:

- Site access keys
- Lock de-icer (winter)
- Spare batteries for instruments
- Knife
- Duct tape
- Reinforced packing tape
- Custody seal tape
- Pen/pencil/indelible marking pen
- Tool box

Completed by: _____

Date: _____

FORM 10

Date: _____

Project No.: 1979

GROUNDWATER DISCHARGE SAMPLING • COMPLETION CHECKLIST

PRIOR PLANNING AND COORDINATION:

- Review of project documents (i.e., QAPP, HSP, and sampling procedures in the O&M Plan), sampling QA/QC, and site-specific sampling requirements.
- Site access notification and coordination.
- Coordinated with laboratory.
- Procured, inventoried, and inspected all equipment and supplies.
- Prepared, calibrated, and performed required maintenance on equipment.

FIELD PROCEDURE:

- Instruments calibrated daily.
- Sampling equipment decontaminated in accordance with the QAPP.
- Temperature, pH, and turbidity logged.
- Sampling details logged in appropriate field book and on field form.

FOLLOW-UP ACTIVITIES:

- All equipment has been maintained, decontaminated, and returned.
- Sampling information reduced and required sample keys and field data distributed.
- Chain-of-Custody records filed.
- Expendable stock supplies replaced.
- Access keys returned.
- Arranged disposal/treatment for decontamination fluids.
- Confirm all samples collected.

Completed by: _____

Date: _____

FORM 11

GROUNDWATER DISCHARGE SAMPLING
• FIELD INFORMATION FORM

Project No.: 1979

DATE/PROJECT NAME:

Pfohl Brothers Landfill

LOCATION: Discharge Sampling Port

FIELD MEASUREMENTS

--	--	--	--	--	--

SAMPLE DATE
(MM DD YY)

--	--	--	--

SAMPLE TIME
(HH mm)

--	--	--	--	--

INSTANTANEOUS FLOW
(GPM)

--	--	--	--	--	--

TOTAL FLOW
(Gallons)

NOTES:

FIELD COMMENTS

SAMPLE APPEARANCE: _____ ODOR: _____ COLOR: _____ TURBIDITY: _____

WEATHER CONDITIONS: WIND SPEED _____ DIRECTION: _____ PRECIPITATION OUTLOOK (Y/N): _____

ADDITIONAL COMMENTS: _____

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

FORM 12

DATE

PRINT NAME

SIGNATURE

GROUNDWATER DISCHARGE SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME:

Pfohl Brothers Landfill

PROJECT NO.: 1979

SAMPLING CREW MEMBERS:

SUPERVISOR:

DATE OF SAMPLE COLLECTION:

(MM	DD	YY)			

Sample I.D. Number	Field pH	Field Temp.	Field Turb.	Instantaneous Flow Velocity	Total Flow	Time	Sample Description & Analysis	Chain-of-Custody Number

Additional Comments:

FORM 13

Date: _____

Project No.: 1979

WATER LEVEL MEASUREMENT EQUIPMENT AND SUPPLY CHECKLIST

INSTRUMENTS:

- Water level indicator
- Steel Tape
- Plopper

SUPPLIES

- Foil O
- Paper towels
- Decontamination Fluids
 - Deionized water
 - Hexane (pesticide grade)
 - Methanol (pesticide grade)
 - Nitric acid rinse
- Trash bags
- Plastic spray bottles

PERSONAL PROTECTIVE EQUIPMENT:

- Tyveks (assorted sizes and types)
- Nitrile gloves
- Hard hats/liner
- Field overboots
- Work gloves (cotton and chemical resistant)
- Safety glasses/or side shields on
OSHA-approved prescription lenses
- First-aid kit
- Respirators
- Check Health and Safety Plan

DOCUMENTATION

- Well/staff gauge logs
- Notebook/Field book
- Photolog
- Previous well logs and previous historical well/staff gauge data
- Site map
- O&M Plan

MISCELLANEOUS:

- Well cap keys and Site access keys
- Bolt cutters
- Camera/film
- Knife
- Spare batteries for instruments
- Lock de-icer (winter)
- Pen/pencil/indelible marking pen
- Tool box
- Spare locks/keys

Completed by: _____

Date: _____

FORM 14

Date: _____

Project No.: 1979

WATER LEVEL MEASUREMENT • COMPLETION CHECKLIST

PRIOR PLANNING AND COORDINATION:

- Confirm well/staff gauge numbers, location and accessibility.
- Review of project documents (i.e., QAPP, HSP, and sampling procedures in the O&M Plan), sampling QA/QC, and Site-specific sampling requirements.
- Historical well/staff gauge data; depth, water level measurements.
- Site access notification and coordination.
- Procured, inventoried, and inspected all equipment and supplies.
- Prepared, calibrated, and performed required maintenance on equipment.

FIELD PROCEDURE:

- Instruments calibrated daily.
- Equipment decontaminated in accordance with the QAPP.
- Initial well/staff gauge measurements logged.
- Well was secured after measurements (if applicable).
- Measurement dates times, locations and results have all been recorded in applicable log(s).

FOLLOW-UP ACTIVITIES:

- All equipment has been maintained and returned.
- Water elevation data is reduced and checked, and field data distributed.
- Expendable stock supplies replaced.
- Access keys and well cap keys returned.
- Confirm all measurements taken.

Completed by: _____

Date: _____

FORM 15

WATER LEVEL RECORD

PROJECT NAME: Pfohl Brothers Landfill

LOCATION: Cheektowaga, New York

JOB NO. : 1979

DATE:

(MM	DD	YY)		

CREW MEMBERS: _____

Observation Well	Time of Measurement	Top of Casing Elevation	Depth to Water	Water Level Elevation
		A	B	A-B
		feet	feet	feet

CRA 1979 (36)

INSPECTION LOG

PROJECT NAME: Pfohl Brothers Landfill

LOCATION: Cheektowaga, New York

JOB NO. : 1979

DATE: _____
(MM DD YY)

INSPECTORS:

<i>Item</i>	<i>Inspect For</i>	<i>Action Required</i>	<i>Comments</i>
2. Landfill Cap (continued) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Access Roads	- erosion	_____
		- obstructions	_____
		- potholes	_____
		- puddles	_____
		- debris	_____
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Perimeter Fence	- integrity of fence	_____
		- integrity of gates	_____
		- integrity of locks	_____
		- placement and condition of signs	_____
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Grass	- bare areas	_____
		- length of grass	_____
		- dead/dying grass	_____

INSPECTION LOG

PROJECT NAME: Pfohl Brothers Landfill LOCATION: Cheektowaga, New York

JOB NO. : 1979 DATE: _____

(MM DD YY)

INSPECTORS:

<i>Item</i>	<i>Inspect For</i>	<i>Action Required</i>	<i>Comments</i>		
2. Landfill Cap (continued)					
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Drainage Ditches	- sediment build-up - erosion - condition of erosion protection - flow obstructions - dead/dying grass	_____ _____ _____ _____ _____		
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Culverts	- sediment build-up - erosion - condition of erosion protection - flow obstructions	_____ _____ _____ _____	
		<input type="checkbox"/> <input type="checkbox"/>	Gas Vents, Monitoring	- intact /damage	_____ _____
			<input type="checkbox"/> <input type="checkbox"/>	Wells, Piezometers, and Gas Probes	- locks secure

FORM 17

INSPECTION LOG

PROJECT NAME: Pfohl Brothers Landfill

LOCATION: Cheektowaga, New York

JOB NO. : 1979

DATE: _____
(MM DD YY)

INSPECTORS:

<i>Item</i>	<i>Inspect For</i>	<i>Action Required</i>	<i>Comments</i>
3. Wetlands	Water Levels	- too much water, flooding	_____
		- not enough water, drought	_____
	Erosion Protection	- general condition and stability	_____
		- replacement requirement	_____
	Sediments	- sediment build-up	_____
		- flow restrictions	_____
	Vegetated Cover	- bare areas	_____
		- washouts	_____
		- dead/dying plants	_____
		- undesirable plants	_____

MAINTENANCE RECORD LOG

PROJECT NAME: Pfohl Brothers Landfill

LOCATION: Cheektowaga, New York

JOB NO. : 1979

DATE: _____
(MM DD YY)

CREW MEMBERS: _____

1. Date:

--	--	--	--	--	--

 (MM DD YY)

Time:

--	--	--	--	--	--

 (HH mm)

Scheduled/Unscheduled: _____

Type of Maintenance Performed: _____

2. Company Performing Maintenance

Name: _____

Address: _____

Contact Name: _____

3. Methods Used:

Description of Material Removed:

Problems/Comments:

Inspector: _____ Signed: _____ Date: _____

FORM 18

TRAINING ACKNOWLEDGMENT FORM

Please Print:

NAME: _____

ADDRESS: _____

SOCIAL SECURITY NUMBER: _____

EMPLOYER: _____

JOB SITE: Pfohl Brothers Landfill
Cheektowaga, New York

Please place an X in the appropriate box(es) and write your initials below the appropriate box(es).

I have attended and understood the mandatory Site-specific initiation session for the above referenced job site. This program referenced the following topics:

- i) known potential hazards on-Site;
- ii) level of personal protection equipment required;
- iii) emergency procedures for the Site; and
- iv) the basics of the Site-specific Health and Safety Plan.

I further confirm that I have the required 40 hours of training to comply with 29 CFR 1910.120, have a respirator for which I have been fit tested and have been thoroughly trained on the standard operating procedures of equipment I will be operating or procedures (e.g., confined space) which I will be participating in. Personal not meeting these requirements will not be allowed to participate in water sampling and/or handling activities, confined space entry, collection drain system and/or forcemain system cleaning or repair, cap repair (beneath the liner), and/or liner repair.

(Date)

(Signature)

FORM 19

APPENDIX C

HEALTH AND SAFETY PLAN

**APPENDIX C
SITE HEALTH AND SAFETY PLAN
REMEDIAL ACTION O&M ACTIVITIES**

**PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

JULY 2002

REF. NO. 1979 (36) APPC

This report is printed on recycled paper.

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared to provide a mechanism for establishing safe working conditions at the Pfohl Brothers Landfill Site (Site), located in Cheektowaga, Erie County, New York, during implementation of the long-term operation and maintenance (O&M) activities. The safety organization, procedures, and protective equipment have been established based upon an analysis of potential hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential for accidents or injuries that may occur during performance of the O&M activities.

The primary objective of this HASP is to address the general health and safety procedures/requirements that will be implemented during the O&M activities.

1.1 POLICY STATEMENT

The policy is to provide a safe and healthful work environment during Site activities. The contractor will take every reasonable step to eliminate or control hazards in order to minimize the possibility of injury, illness, or accident.

This HASP prescribes the health and safety procedures that will be implemented by all Site personnel during the performance of O&M activities. Operational changes that could affect the health and safety of personnel, the community, or the environment will not be made without the prior approval of the Town's Project Coordinator. This document will be periodically reviewed to ensure that it is current and technically correct. Any changes in Site conditions and/or the scope of work will involve a review and modification to the HASP. Such changes will be completed in the form of an addendum.

The provisions of this plan are mandatory for all personnel assigned to the Site. All visitors on the Site must abide by the minimum requirements of this plan. It should be acknowledged that the workers of other consulting and/or contracted companies may work in accordance with their own independent HASPs; however, subcontractor HASPs must meet the minimum requirements of this HASP.

The Project Management Team, consisting of the Town's Project Coordinator and the Health and Safety Officer, will determine which of the O&M activities will present a potential for contact with the safety and health hazards (e.g., groundwater or waste materials) that exist at the Site. Site personnel who will be conducting these activities

need to comply with the training requirements of the Occupational Safety and Health Administrations (OSHAs) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1926.65).

1.2 REFERENCES

This HASP complies with applicable OSHA regulations, as well as United States Environmental Protection Agency (USEPA) regulations. This plan follows the guidelines established in the following:

- *Standard Operating Safety Guides*, USEPA (Publication 9285.1-03, June 1992);
- *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, NIOSH, OSHA, USCG, USEPA (86-116, October 1985);
- Title 29 of the Code of Federal Regulations (CFR), Part 1926, in particular 1926.65;
- *Pocket Guide to Chemical Hazards*, DHHS, PHS, CDC, NIOSH, (1997);
- *Threshold Limit Values*, ACGIH, (1997-1998); and
- *Quick Selection Guide to Chemical Protective Clothing*, Forsberg, K. and S.Z. Mansdorf, 2nd Ed., (1993).

1.3 DEFINITIONS

The following definitions are applicable to this HASP:

- **Site** - The area where the work is to be performed. The Site may include areas that have not been fully characterized, are not subject to remedial action, and are not potentially affected by activities conducted under this HASP. Figure C1.1 depicts the boundaries of the Site.
- **Project** - All on-Site work performed under the scope of work for the O&M activities.
- **On-Site Personnel** - Town of Cheektowaga, Steering Committee, NYSDEC, Engineer, Contractor, and/or Contractor's subcontractor personnel involved with the activities.
- **Engineer/Contractor/Subcontractor** - Includes engineer/contractor/subcontractor personnel hired by the Town to perform specific O&M activities.
- **Visitor** - All other personnel, except the on-Site personnel. All visitors must receive approval from the Town to enter the fenced portion of the Site.

- Exclusion Zone (EZ) - Any portion of the Site where hazardous substances are or are reasonably suspected to be present in the air, water, or soil.
- Contamination Reduction Zone (CRZ) - Area between the Exclusion Zone and Support Zone that provides a transition between contaminated and clean areas. Decontamination stations are located in this zone.
- Support Zone (SZ) - The area(s) of the Site where airborne contamination is not present, and where exposure to hazardous materials is not expected. Support equipment is located in this zone.

2.0 ROLES AND RESPONSIBILITIES

All on-Site personnel must adhere to the procedures established in this HASP during the performance of their work. Each person is responsible for completing tasks safely and reporting any unsafe acts or conditions to his or her immediate supervisor or to the Town's Project Coordinator. No person may work in a manner that conflicts with the safety and environmental precautions expressed in these procedures. After due warnings, the Town's Project Coordinator will dismiss any person who violates safety procedures.

All on-Site personnel working in EZs will receive training in accordance with 29 CFR 1910.120 and be familiar with the requirements and procedures contained in this document prior to the beginning of field operations.

2.1 TOWN'S PROJECT COORDINATOR

The Project Coordinator is ultimately responsible for ensuring that all O&M activities are completed in accordance with the requirements and procedures in the O&M Plan and to provide the equipment, materials and qualified personnel necessary to implement this HASP.

It is the responsibility of the Project Coordinator to:

- Approve, in writing, any addenda or modifications to the HASP;
- Suspend work if health and/or safety-related concerns arise;
- Notify local public emergency personnel of the nature of the Site operations and posting their telephone numbers in appropriate locations throughout the Site;
- Obtain a Site map and post routes to medical facilities and arrange emergency transportation to medical facilities;
- Observe on-Site project personnel for signs of chemical or physical trauma; and
- Verify that all Site personnel have the proper medical clearances, have met applicable training requirements, and have training documentation available at the Site.

2.2 HEALTH AND SAFETY OFFICER

The Site Health and Safety Officer (HSO) is responsible for coordinating/implementing day-to-day health and safety procedures. The HSO will advise the Project Coordinator on health and safety issues and will establish and assist with the Site air monitoring program. The HSO is the primary Site contact on occupational health and safety.

It is the responsibility of the HSO to:

- Verify that all on-Site personnel are made aware of the provisions of this HASP and have been informed of the nature of any physical and/or chemical hazards associated with the O&M activities;
- Maintain a daily log of all significant health and safety activities and incidents;
- Verify that on-Site personnel and visitors have received the required training, including instructions for safety equipment and personal protective equipment use;
- Suspend work if health and/or safety-related concerns arise;
- Provide on-Site technical assistance;
- Assist with Site and personal air monitoring, including equipment maintenance and calibration. Where necessary, submit samples to an American Industrial Hygiene Association (AIHA) accredited laboratory;
- Issue/obtain required work permits, if necessary;
- Conduct Site safety orientation training and Daily Safety Meetings (a Daily Safety Meeting Log is included in Attachment A);
- Maintain the EZ and CRZ work areas;
- Coordinate emergency procedures;
- Conduct training with all Town standard operating procedures (SOPs) including review of equipment user manuals for equipment such as chain saws, etc.;
- Oversee the Community Air Monitoring Program;
- Supervise and inspect equipment cleaning;
- Maintain the on-Site Hazard Communication Program including copies of all Material Safety Data Sheets (MSDSs);
- Verify that on-Site personnel have received the required physical examinations and medical certifications;
- Review Site activities with respect to the adequacy of this HASP; and
- Maintain required health and safety documents and records on Site.

2.3 ENGINEER/CONTRACTORS/SUBCONTRACTORS

On-Site engineer/contractors/subcontractors and their personnel must understand and comply with the Site requirements established in this HASP. Engineer/contractors/subcontractors may prepare their own task-specific HASP'S, which must be consistent with the minimum requirements of this HASP. Engineer/contractors/subcontractor personnel must attend and participate in the Daily Safety Meetings and all other Site safety meetings.

2.4 ON-SITE PERSONNEL AND VISITORS

All personnel performing activities at the Site must read and acknowledge their understanding of this HASP (a HASP Acknowledgment sign-off sheet is included in Attachment B), abide by the requirements of this plan, and cooperate with Site supervision in ensuring a safe work Site. O&M personnel will immediately report any of the following to the Project Coordinator or HSO:

- Accidents and injuries, no matter how minor;
- Unexpected or uncontrolled release of chemical substances;
- Symptoms of chemical exposure;
- Unsafe or malfunctioning equipment;
- Changes in Site conditions that may affect the health and safety of project personnel;
- Damage to equipment or property; and
- Conditions or activities for which they are not properly trained.

3.0 PROJECT HAZARDS AND CONTROL MEASURES

A job hazard assessment is necessary to identify potential safety, health, and environmental hazards associated with each type of field activity. Because of the complex and changing nature of field projects, supervisors must continually inspect the work Site to identify hazards that may harm Site personnel, the community, or the environment. The HSO must be aware of these changing conditions, and discuss them with the Project Coordinator whenever these changes impact employee health, safety, the environment, or performance of the project. The Project Coordinator will keep personnel informed of the changing conditions, and write or approve addenda to this HASP, as necessary.

3.1 CAP REPAIR ACTIVITIES/HAZARDS AND CONTROL MEASURES

This section identifies the project hazards and control measures associated with the repair of the final cap. These tasks include disconnection/reconnection of utilities, access road repairs, construction of surface-water control structures, and potential handling of Site wastes.

3.1.1 DISCONNECTION/RECONNECTION OF UTILITIES

The disconnection/reconnection of Site utilities will require the use of construction equipment to perform excavation and backfilling activities. These construction activities create potential exposure to many physical and chemical hazards.

The physical hazards involved with heavy equipment, hand tools, and the construction environment itself include personnel being struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions; slip, trip, and falls from slippery walking and/or working surfaces; falling when working at high elevations; injuries as a result of using improper lifting techniques; and noise from operation of heavy equipment and power actuated and pneumatic hand tools.

Chemical hazards may be encountered during the handling of waste materials.

Prior to initiating the disconnection/reconnection of utilities, the operation will be explained to all workers, hazards will be identified, and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers

shall receive training to address the equipment, its operations, and care. All utilities shall be disconnected/reconnected by qualified personnel in accordance with the requirements of the applicable utility company. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation. Potential exposure to off-gases or emitted vapors will be monitored using the appropriate air monitoring equipment.

3.1.2 ACCESS ROAD REPAIRS

During the repair of Site access roads, potential hazards exist relating to the use of large construction equipment and manual materials handling. These construction activities may involve a potential for exposure to many physical hazards.

The physical hazards involved with heavy equipment, hand tools, and the construction environment itself include personnel being struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions; slip, trip, and falls from slippery walking and/or working surfaces; falling when working at high elevations; injuries as a result of using improper lifting techniques; and noise from operation of heavy equipment and power actuated and pneumatic hand tools.

Prior to initiating these activities, the operation will be explained to all workers, hazards will be identified, and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers shall receive training to address the equipment, its operations, and care. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation.

3.1.3 CONSTRUCTION OF SURFACE WATER CONTROL STRUCTURES

Surface water control features may need to be constructed for repair of certain components of the remedy (e.g., final cap). During the construction of surface water control structures, potential hazards exist relating to the use of large construction

equipment and manual materials handling. These construction activities involve a potential for exposure to many physical and chemical hazards.

The physical hazards involved with heavy equipment, hand tools, and the construction environment itself include personnel being struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions; slip, trip, and falls from slippery walking and/or working surfaces; falling when working at high elevations; injuries as a result of using improper lifting techniques; and noise from operation of heavy equipment and power actuated and pneumatic hand tools.

Chemical hazards may be encountered during the disturbance of Site soils and any handling of waste materials.

Prior to initiating these activities, the operation will be explained to all workers, hazards will be identified, and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers shall receive training to address the equipment its operations, and care. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation.

3.1.4 WASTE HANDLING

During the repair of certain components of the remedy (e.g., gas venting layer), Site wastes may be encountered. During waste handling activities, potential hazards exist relating to the use of large construction equipment, and manual materials handling, and the identification of drums. These activities involve a potential for exposure to many physical and chemical hazards.

The physical hazards involved with heavy equipment hand tools, and the construction environment itself include personnel being struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions; slip, trip, and falls from slippery walking and/or working surfaces; falling when working at high elevations; injuries as a result of using improper lifting techniques; and noise from operation of heavy equipment and power actuated and pneumatic hand tools.

Chemical hazards may be encountered during the handling of excavated waste materials. Also, buried drums which may contain hazardous compounds may be encountered during this task.

Prior to initiating these activities, the operation will be explained to all workers, hazards will be identified, and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers shall receive training to address the equipment, its operations, and care. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation. Potential exposure to off-gases or emitted vapors will be monitored during this task using the appropriate air monitoring equipment.

3.1.5 REPAIR OF FINAL CAP

During the repair of the final cap, potential hazards exist relating to the use of large construction equipment and manual materials handling. These construction activities involve a potential for exposure to many physical and chemical hazards.

The physical hazards involved with heavy equipment, hand tools, and the construction environment itself include personnel being struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions; slip, trip, and falls from slippery walking and/or working surfaces; falling when working at high elevations; injuries as a result of using improper lifting techniques; and noise from operation of heavy equipment and power actuated and pneumatic hand tools.

Chemical hazards may be encountered during the handling of waste materials.

Prior to initiating these activities, the operation will be explained to all workers, hazards will be identified, and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers shall receive training to address the equipment, its operations, and care. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation. Potential exposure to off-gases or emitted vapors will be monitored using the appropriate air monitoring equipment.

3.2 EXCAVATION SAFETY

An excavation is defined as the removal of earthen materials from a designated area, thereby creating a manmade cut, trench, or depression in the earth's surface.

The physical hazards involved in the excavation of soils are related to the excavation itself and the operation of heavy equipment. The presence of overhead utilities such as power lines requires careful positioning of the excavating equipment in order to maintain a safe distance between the lines and the closest part of the equipment. The presence of underground utilities such as gas lines, power lines, water lines and sewer pipes must be determined prior to beginning the excavation.

Excavations pose significant hazards to workers if they are not carefully controlled. There exists a chance for the excavation to collapse in on itself if it is not dug properly, sloped, benched or shored as required. The excavation is also a fall hazard, and workers must pay careful attention to what they are doing or they risk a fall into the excavation.

Some field activities may require personnel to enter an excavation. Whenever possible, sampling, equipment placement, and other activities should be done remotely, without entering the excavation. If entry is absolutely unavoidable, strict safety procedures for excavation entry must be followed for each such activity.

Noise may also present a hazard. Heavy equipment operation frequently results in noise levels exceeding 85 dB(A), requiring the use of hearing protection.

Airborne concentrations of soils contaminants and the dust from the procedure pose the potential for exposure at this stage. Potential exposure will be monitored using appropriate air monitoring equipment and procedures.

Before any digging can be done, all underground utilities must be located and identified by marking the ground surface. If heavy equipment operation is conducted in the vicinity of overhead power lines, the power to the lines must be shut off or the equipment must be positioned and blocked such that no part, including cables can come within the minimum clearances as follows:

<i>Nominal System Voltage</i>	<i>Minimum Required Clearance</i>
0-50kV	10 feet
51-100kV	12 feet
101-200kV	15 feet
201-300kV	20 feet
301-500kV	25 feet
501-750kV	35 feet
751-1,000kV	45 feet

When the equipment is in transit, with the boom lowered and no load, the equipment clearance must be at least 4 feet for voltages less than 50 kV, 10 feet for voltages of 50 kV to 345 kV, and 16 feet for voltages above 345 kV.

3.3 CONSTRUCTION SAFETY

Construction activities involve a potential for exposure to many physical and health hazards. Hazards may be associated with the materials used in construction or the activities themselves.

Physical Hazards: The physical hazards involved with construction relate to the work done with heavy equipment, hand tools, and the construction environment itself. There exists a potential for incidents involving personnel struck by or struck against equipment or materials, resulting in fractures, cuts, punctures, or abrasions. Walking and working surfaces during construction activities may involve slip, trip, and fall hazards. Working at elevations may create a potential fall hazard.

Working Surfaces: Slippery work surfaces can increase the likelihood of back injuries, overexertion injuries, and slips and falls. All personnel should frequently inspect working surfaces and keep working surface clear of debris.

High Work Operations: Construction workers are exposed to falls when not utilizing fall protection equipment while conducting work at elevations. High work surfaces must be properly protected with railings and toeboards, or personnel must wear fall protection devices.

Materials Handling: The most common type of accident that occurs in material handling operations is the "caught between" situation when a load is being handled and a finger or toe gets caught between two objects. Extreme care must be taken when loading and

unloading material. Proper lifting technique must be employed, and mechanical means must be used to lift objects whenever possible.

Health Hazards: Due to the type of work involved in many construction activities, the primary health hazards involve repetitive motion disorders, lifting, and other ergonomic stressors. Noise may also present a hazard. Operation of heavy equipment and power actuated and pneumatic hand tools frequently results in high noise levels. Another health hazard involves the emission of vapors or off-gases during manipulation of certain construction materials.

Control: Prior to initiating any construction activity, the operation will be explained to all workers. Hazards will be identified and protective measures will be explained. Equipment will be inspected and in proper working condition. Workers shall receive training to address the equipment, its operations, and care. Personnel shall be scheduled in a manner to reduce the likelihood of performing repetitive tasks for prolonged periods. Mechanical assistance shall be provided for large lifting tasks. Hearing protection is required for use when exposed to noise levels exceeding 85 dB(A), or a level which commonly results in difficult conversation. Potential exposure to off-gases must be reviewed on an individual basis.

3.4 CONFINED SPACE ENTRY

This section contains the requirements for working in confined spaces. A confined space is defined as a space large enough and so configured that a worker can bodily enter and perform assigned work, has limited means for entry or exit, and is not designed for continuous worker occupancy.

On this project, groundwater collection system entry, manhole/wet well entry, and excavation entry will be defined as a confined space entry. Potentially contaminated soil excavations and sewer/manhole/wet well entry may pose additional hazards such as air contamination, flammable or explosive atmosphere, and oxygen deficiency. Excavation entry may pose the possibility of engulfment. Personnel must be properly trained in order to supervise and participate in confined space entry procedures or serve as standby attendants.

All confined spaces should initially be considered as permit required. Under certain conditions, a space may be reclassified as a non permit confined space provided the HSO approves the reclassification, and the space meets the criteria.

All confined space entry work will be conducted in accordance with the Town's SOP for confined space entry work.

3.5 CHEMICAL HAZARDS

The chemical hazards associated with O&M activities are related to inhalation, ingestion and skin exposure to the Site constituents of concern. These constituents are organic compounds such as chlorobenzene, chloroethane, dichlorobenzene, dichloroethane, dichloroethylene, ethylbenzene, phenol and phenol derivatives, PCBs, toluene, xylenes, and coal tar pitch materials; pesticides such as aldrin, endosulfan, dieldrin, endrin, DDD; and metals such as aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, silver, and zinc; and inorganics such as cyanides. Airborne concentrations of constituents of concern may be significant during certain Site tasks, and will require air monitoring of potentially toxic and flammable atmospheres during such operations. Air monitoring requirements for Site tasks are outlined in Section 8.0.

The potential for inhalation of contaminants during certain O&M activities (e.g., groundwater sampling, maintenance of groundwater collection/forcemain system, repairing which expose Site wastes) is slight. The potential for dermal contact with contaminated soils/water during O&M activities is moderate.

Table C3.1 lists the anticipated constituents of concern. Table C3.2 lists the exposure routes and exposure levels for the Site constituents of concern and materials used during field activities.

MSDSs for constituents of concern were compiled for the RA and a copy of these will be kept on Site during the O&M activities. MSDSs for materials to be used on Site will also be kept on Site during the O&M period.

4.0 GENERAL SAFETY PRACTICES

The general safety practices that will be implemented during O&M activities include the following:

- At least one copy of this plan must be at the Site, in a location readily available to all personnel, and reviewed by all project personnel prior to starting work;
- All Site personnel must use the buddy system (working in pairs or teams) when working in EZs;
- Contaminated protective equipment, such as respirators, hoses, boots, etc., must not be removed from the EZ before being cleaned or properly packaged and labeled;
- Contaminated waste, debris, and clothing must be properly contained, and legible and understandable precautionary labels must be affixed to the containers;
- Removing contaminated soil from protective clothing or equipment with compressed air, shaking, or any other means that disperses contaminants into the air is prohibited;
- Food, beverages, or tobacco products must not be present or consumed in the EZ and CRZ. Also, cosmetics must not be applied within these zones;
- Containers must be moved only with the proper equipment and must be secured to prevent dropping or loss of control during transport;
- Emergency equipment such as eyewash, fire extinguishers, showers, etc. must be removed from storage areas and staged in readily accessible locations;
- Workers must inform their partners or fellow team members of nonvisible effects of exposure to toxic materials. The symptoms of such exposure may include:
 - Headaches;
 - Dizziness;
 - Nausea;
 - Blurred vision;
 - Cramps; and
 - Irritation of eyes, skin, or respiratory tract; and
- Visitors to the Site must abide by the following:
 - All visitors must be instructed to stay outside the EZ and CRZ and remain within the SZ during the extent of their stay. Visitors must be cautioned to avoid skin contact with surfaces which are contaminated or suspected to be contaminated; and

- Visitors requesting to observe work in the EZ must don all appropriate personal protective equipment prior to entry into that zone, and must be cleared for hazardous waste work as evidenced by a complete physical examination, 40 hours of hazardous waste operations training, and 8 hours of refresher training within the past 12 months. If respiratory protective devices are necessary, visitors who wish to enter the EZ must have been respirator-trained and fit tested for a respirator within the past 12 months.

4.1 BUDDY SYSTEM

All on-Site personnel must use the buddy system for O&M activities that take place in an EZ. Visual contact must be maintained between crew members at all times, and crew members must observe each other for signs of chemical exposure, heat stress, or cold stress. Indications of adverse effects include, but are not limited to:

- Changes in complexion and skin coloration;
- Changes in coordination;
- Changes in demeanor;
- Excessive salivation and pupillary response; and
- Changes in speech pattern.

Team members must also be aware of potential exposure to Site hazards, unsafe acts, or non-compliance with safety procedures.

If protective equipment or noise levels impair communications, prearranged hand signals (provided by the Engineer/Contractor) must be used for communication and personnel must stay within line of sight of other team members at all times.

4.2 HEAT/COLD STRESS

Heat and cold are two physical agents which can adversely affect workers if not dealt with properly. Stress caused by heat or cold can result in lower productivity, lower morale, and greater risk of employee injury. Also, severe heat or cold stress can directly endanger workers' health. Through proper training, recognition of symptoms, work breaks, monitoring, and proper use of protective equipment, many heat and cold-related stresses on workers can be prevented and controlled. A discussion of heat stress and

safety precautions for working in hot environments are included as Attachment C. A discussion of cold stress and safety precautions for working in cold environments are included as Attachment D.

4.3 BIOLOGICAL HAZARDS

Biological hazards may include poison ivy, snakes, thorny bushes and trees, ticks, mosquitoes, and other pests.

4.3.1 TICK-BORNE DISEASES

Lyme Disease, Rocky Mountain Spotted Fever (RMSF), and Erlichiosis are diseases transmitted by infected ticks and occurs throughout the United States during spring, summer, and fall. "Hot spots" in the United States include Connecticut, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, Rhode Island, and Wisconsin. Few cases have been identified in other states (less than 1 in 100,000).

These diseases are transmitted primarily by the Deer Tick, which is smaller and redder than the common Wood Tick. The disease may be transmitted by immature ticks, which are small and hard to see. The tick may be as small as a period on this page.

Symptoms of Lyme Disease or Erlichiosis include a rash or a peculiar red spot, like a bull's eye, which expands outward in a circular manner. The victim may have headache, weakness, fever, a stiff neck, swelling and pain in the joints, and eventually, arthritis. Symptoms of Erlichiosis include muscle and joint aches, flu-like symptoms, but there is typically no skin rash.

RMSF is transmitted via the bite of an infected tick that must be attached 4 to 6 hours before the disease-causing organism (*Rickettsia rickettsii*) becomes reactivated and can infect humans. The primary symptom of RMSF is the sudden appearance of a moderate-to-high fever. The fever may persist for two to three weeks. The victim may also have a headache, deep muscle pain, and chills. A rash appears on the hands and feet on about the third day and eventually spreads to all parts of the body. For this reason, RMSF may be confused with measles or meningitis. The disease may cause death if untreated, but if identified and treated promptly, death is uncommon.

Safety practices that should be used when working in tick infected areas include using tick repellents containing diethyltoluamide (DEET) and tucking pant legs into boots. In

addition, workers should search the entire body every 3 or 4 hours for attached ticks. Ticks should be removed promptly and carefully without crushing, since crushing can squeeze the rickettsia into the skin. A gentle and steady pulling action should be used to avoid leaving the head or mouth parts in the skin. Hands should be protected with surgical gloves when removing ticks.

4.3.2 POISONOUS PLANTS

Poison ivy may be present in the work area. Personnel should be alerted to its presence, and instructed on methods to prevent exposure.

Safety practices that should be used when working in areas containing poisonous plants include avoiding contact with the plants, covering arms and hands, and frequently washing potentially exposed skin. Particular attention must be given to avoiding skin contact with objects or protective clothing that has touched the plants. Treat every surface that may have touched the plant as contaminated and practice contamination avoidance. If skin contact is made, the area should be washed immediately with soap and water and observed for signs of reddening.

4.4 NOISE

Exposure to noise over the OSHA exposure limit of 90 dB(A) can cause temporary impairment of hearing; prolonged and repeated exposure can cause permanent damage to hearing. The risk and severity of hearing loss increases with the intensity and duration of exposure to noise. In addition to damaging hearing, noise can impair voice communication, thereby increasing the risk of accidents.

When working in noise impacted areas exceeding the OSHA Action Level of 85 dB(A), personnel must wear hearing protection with a Noise Reduction Rating (NRR) of at least 20. When it is difficult to hear a co-worker at normal conversation distance, the noise level is approaching or exceeding 85 dB(A), and hearing protection is necessary. All Site personnel who may be exposed to noise must also receive baseline and annual audiograms and training as to the causes and prevention of hearing loss. Noise monitoring is discussed further in Section 8.2 of this HASP.

Whenever possible, equipment that does not generate excessive noise levels will be selected for this project. If the use of noisy equipment is unavoidable, wherever possible barriers or increased distance will be used to minimize worker exposure to noise.

4.5 SPILL CONTROL

All personnel must take every necessary precaution to minimize the potential for spills during Site operations. All on-Site personnel are obligated to report immediately any discharge, no matter how small, to the Project Coordinator.

Spill control apparatus will be located on-Site at locations that the Project Coordinator foresees the potential for discharge to the ground. All sorbent materials used for the clean up will be containerized and labeled separately from other wastes, unless otherwise directed by the Project Coordinator. In the event of a spill, the Project Coordinator will follow the provisions outlined in Section 11.0 of this HASP to contain and control released materials and to prevent spread to off-Site areas.

4.6 LOCKOUT/TAGOUT PROCEDURES

Equipment maintenance procedures will only be performed by fully qualified and trained individuals in accordance with the Town's SOP. Before maintenance begins, lockout/tagout procedures per OSHA 29 CFR 1910.147 will be followed.

Lockout is the placement of a device that uses a positive means, such as a lock, to hold an energy or material isolating device or system ensuring that the equipment cannot be operated until the lockout device is removed. If a device cannot be locked out, a tagout system will be used. Tagout is the placement of a warning tag on an energy or material isolating device indicating that the equipment controlled may not be operated until the tag is removed.

4.7 BREAK AREA

Breaks will be taken in the SZ, away from the active work area after Site personnel go through decontamination procedures. There will be no smoking, eating, drinking, or chewing gum or tobacco in the work area.

4.7.1 POTABLE WATER

The following rules apply for all O&M activities during which Site wastes may be encountered:

- An adequate supply of potable water will be provided at each work Site. Potable water must be kept away from hazardous materials, contaminated clothing, and contaminated equipment;
- Portable containers used to dispense drinking water must be capable of being tightly closed and equipped with a tap dispenser. Water must not be drunk directly from the container, nor dipped from the container;
- Containers used for drinking water must be clearly marked and not used for any other purpose; and
- Disposable cups will be supplied; both a sanitary container for unused cups and a receptacle for disposing of used cups must be provided.

4.7.2 SANITARY FACILITIES

Access to facilities for washing before eating, drinking, or smoking will be provided on the Site for all personnel.

4.7.3 LAVATORY

An appropriate number of portable chemical toilets will be provided on the Site for all personnel.

4.7.4 TRASH COLLECTION

Trash collected from the CRZ will be separated as routine hazardous waste. Trash collected in the support and break areas will be disposed of as nonhazardous waste. Labeled trash receptacles will be set up in the CRZ and in the SZ.

4.8 ELECTRICAL HAZARDS

Electricity may pose a particular hazard to Site workers due to the use of portable electrical equipment. If wiring or other electrical work is needed, it must be performed by a qualified electrician.

General electrical safety requirements include:

- All electrical wiring and equipment must be a type listed by UL, Factory Mutual Engineering Corporation (FM), or other recognized testing or listing agency;
- All installations must comply with the National Electrical Safety Code (NESC), the NEC, or United States Coast Guard regulations;
- Portable and semi portable tools and equipment must be grounded by a multi conductor cord having an identified grounding conductor and a multi contact polarized plug-in receptacle;
- Tools protected by an approved system of double insulation, or its equivalent, need not be grounded. Double insulated tools must be distinctly marked and listed by UL or FM;
- Live parts of wiring or equipment must be guarded to prevent persons or objects from touching them;
- Electric wire or flexible cord passing through work areas must be covered or elevated to protect it from damage by foot traffic, vehicles, sharp corners, projections, or pinching;
- All circuits must be protected from overload;
- Temporary power lines, switch boxes, receptacle boxes, metal cabinets, and enclosures around equipment must be marked to indicate the maximum operating voltage;
- Plugs and receptacles must be kept out of water unless of an approved submersible construction;
- All extension outlets must be equipped with ground fault circuit interrupters (GFCI);
- Attachment plugs or other connectors must be equipped with a cord grip and be constructed to endure rough treatment;
- Extension cords or cables must be inspected prior to each use and replaced if worn or damaged. Cords and cables must not be fastened with staples, hung from nails, or suspended by bare wire; and
- Flexible cords must be used only in continuous lengths without splice, with the exception of molded or vulcanized splices made by a qualified electrician.

4.9 LIFTING HAZARDS

Back strain or injury may be prevented by using proper lifting techniques. The fundamentals of proper lifting include:

- Consider the size, shape, and weight of the object to be lifted. A mechanical lifting device or additional persons must be used to lift an object if it cannot be lifted safely alone;
- The hands and the object should be free of dirt or grease that could prevent a firm grip;
- Gloves must be used, and the object inspected for metal slivers, jagged edges, burrs, rough or slippery surfaces;
- Fingers must be kept away from points which could crush or pinch them, especially when putting an object down;
- Feet must be placed far enough apart for balance. The footing should be solid and the intended pathway should be clear;
- The load should be kept as low as possible, close to the body with the knees bent;
- To lift the load, grip firmly and lift with the legs, keeping the back as straight as possible;
- A worker should not carry a load that he or she cannot see around or over; and
- When putting an object down, the stance and position are identical to that for lifting; the legs are bent at the knees, and the back is straight as the object is lowered.

5.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is required to safeguard Site personnel from various hazards. Varying levels of protection may be required depending on the level of contaminants and the degree of physical hazard. This section presents the various levels of protection and defines the conditions of use for each level.

5.1 SITE RESPIRATORY PROTECTION PROGRAM

Respiratory protection is an integral part of employee health and safety at sites with potential airborne contamination.

The Site respiratory protection program will consist of the following:

- All Site personnel who may use respiratory protection will have an assigned respirator;
- All Site personnel who may use respiratory protection will have been fit tested and trained in the use of a full-face air purifying respirator within the past 12 months;
- All Site personnel who may use respiratory protection must within the past year have been medically certified for being capable of wearing a respirator. Documentation of the medical certification must be provided to the HSO, prior to commencement of Site work;
- Only cleaned, maintained, NIOSH/MSHA-approved respirators are to be used on this Site;
- If respirators are used, the respirator cartridge is to be properly disposed of at the end of each work shift, or prior to breakthrough;
- Contact lenses are not to be worn when a respirator is worn;
- All Site personnel who may use respiratory protection must be clean shaven. Mustaches and side burns are permitted, but they must not touch the sealing surface of the respirator;
- Respirators will be inspected, and a positive, negative pressure test performed prior to each use; and
- After each use, the respirator will be wiped with a disinfectant, cleansing wipe. When used, the respirator will be thoroughly cleaned at the end of the work shift. The respirator will be stored in a clean plastic bag, away from direct sunlight in a clean, in a dry location, in a manner that will not distort the facepiece.

5.2 LEVELS OF PROTECTION

Protection levels are determined based upon contaminants present in the work area. A summary of the levels is presented in this section.

5.2.1 LEVEL D PROTECTION

The minimum level of protection that will be required of personnel at the Site will be Level D, which will be worn as the initial protection level for O&M activities. The following equipment will be used:

- Work clothing as prescribed by weather;
- Steel toe work boots, meeting ANSI Z41;
- Safety glasses or goggles, meeting ANSI Z87;
- Hard hat, meeting ANSI Z89; and
- Hearing protection (if noise levels exceed 85 dB(A), then hearing protection with an NRR of at least 20 dB(A) must be used).

5.2.2 MODIFIED LEVEL D PROTECTION

Modified Level D will be used when airborne contaminants are not present at levels of concern, but O&M activities may cause an increased potential for skin contact with subsurface liquids and solids. Modified Level D consists of:

- Tyvek® coveralls;
- Safety toe work boots;
- Vinyl or latex booties, or PVC overboots;
- Safety glasses or goggles;
- Hard hat;
- Face shield in addition to safety glasses or goggles when projectiles pose a hazard;
- Nitrile gloves; and
- Hearing protection (if necessary).

5.2.3 LEVEL C PROTECTION

Level C protection will be required when the airborne concentration of contaminants is known or suspected to be one half the ACGIH TLV or the OSHA PEL, and an increased possibility of skin exposure exists. Level C protection will be used for O&M activities when air monitoring instruments indicate an upgrade is necessary.

The following equipment will be used for Level C protection:

- Full face, air purifying respirator with organic vapor /acid gas cartridges in combination with a P-100 particulate filter which are NIOSH/MSHA approved;
- Polyethylene coated Tyvek® suit, ankles and cuffs taped to boots and gloves;
- Nitrile gloves over nitrile sample gloves;
- Safety toe work boots, ANSI approved;
- Chemical resistant neoprene boots with steel toes; or latex booties PVC boots over safety toe shoes;
- Hard hat, ANSI approved; and
- Hearing protection (if necessary).

5.2.4 LEVEL B PROTECTION

Level B protection will be required when the airborne concentration of suspected contaminants is known or suspected to exceed the protection factor for Level C respiratory equipment. Level B protection is also worn when contaminant concentrations may change, or during initial work activities before airborne contaminant concentrations have been determined or for potential IDLH conditions (e.g., oxygen deficiency).

The following equipment will be used for Level B protection:

- Full face, air-supplied respirator (with escape bottle) which is NIOSH/MSHA approved;
- Polyethylene coated Tyvek® suit, ankles and cuffs taped to boots and gloves, hood taped to respirator facepiece;
- Nitrile gloves over nitrile sample gloves;
- Safety toe work boots, ANSI approved;

- Chemical resistant neoprene boots with steel toes; or latex booties PVC boots over safety toe shoes;
- Hard hat, ANSI approved; and
- Hearing protection (if necessary).

5.2.5 SELECTION OF PERSONAL PROTECTIVE EQUIPMENT

Equipment for personal protection will be selected based on the potential for contact, Site conditions, ambient air quality, and the judgment of the Project Coordinator and HSO. The PPE used will be chosen to be effective against the compound(s) present on the Site. Table C5.1 presents the prescribed level of protection for O&M activities.

5.3 USING PERSONAL PROTECTIVE EQUIPMENT

Depending upon the level of protection selected for the O&M activity, specific donning and doffing procedures may be required. The procedures presented in this section are mandatory if Level C or B PPE is used.

All people entering the EZ must put on the required PPE in accordance with the requirements of this plan. When leaving the EZ, PPE will be removed in accordance with the procedures listed, to minimize the spread of contamination.

5.3.1 DONNING PROCEDURES

These procedures are mandatory only if Level C or B PPE is used:

- Remove bulky outerwear and street clothes and store in a clean location;
- Put on work clothes or coveralls;
- Put on the required chemical protective coveralls or rain gear;
- Put on the required chemical protective boots or boot covers;
- Tape the legs of the coveralls to the boots with duct tape;
- Put on the required sample gloves and outer chemical protective gloves;
- Tape the wrists of the protective coveralls to the gloves;
- Don the required respirator and perform appropriate fit check;

- Put hood or head covering over head and respirator straps and tape hood to facepiece; and
- Don remaining PPE, such as safety glasses or goggles and hard hat.

When these procedures are instituted, one person must remain outside the work area to ensure that each person entering has the proper protective equipment.

5.3.2 DOFFING PROCEDURES

The following procedures are only mandatory if Level C or B PPE is required. Whenever a person leaves a Level C or higher work area, the following decontamination sequence will be followed:

- Deposit any used equipment in a segregated area prior to entering the CRZ. This segregation reduces the possibility of cross contamination;
- At the perimeter of the EZ, protective garments or splash protection and breathing apparatus tanks and hoses (if worn) will be damp-wiped or wet sprayed to remove any gross contamination. This effort will eliminate any exposure to support personnel and workers themselves during the desuited process;
- Upon entering the CRZ, rinse contaminated materials from the boots or remove contaminated boot covers;
- Hard hats will be removed and hung up. On a daily basis, these will be scrubbed with detergent-water solution;
- Outer gloves will be cleaned and removed, and depending on condition, will be discarded (if damaged or uncleanable);
- Disconnect and remove supplied air breathing apparatus (Level B). The initial five phases of decontamination should eliminate the airborne hazard at this point;
- Splash gear will be removed, cleaned, and hung up to dry (if worn);
- Remove protective garments, equipment, and respirator (Level C). Sample gloves to be removed last. All disposable clothing should be placed in plastic bags, which are labeled with contaminated waste labels;
- Wash hands, face and neck or shower (if necessary);
- Proceed to clean area and dress in clean clothing; and
- Clean and disinfect respirator for next use.

All disposable equipment, garments, and PPE must be bagged in plastic bags, labeled for disposal. See Section 7.0 of this HASP for detailed information on decontamination stations.

5.4 **SELECTION MATRIX**

The level of personal protection selected will be based upon real-time air monitoring of the work environment, the preselected level of protection and/or an assessment by the HSO of the potential for skin contact with contaminated materials. The PPE selection matrix for the O&M activities is presented in Table C5.1, and is based upon information available at the time this plan was written. The Airborne Contaminant Action Levels in Table C8.1 should be used to verify that the PPE prescribed in this matrix is appropriate.

6.0 SITE CONTROL

6.1 AUTHORIZATION TO ENTER

Only personnel who have completed hazardous waste operations initial training as defined under OSHA Regulation 29 CFR 1926.65, have completed their training or refresher training within the past 12 months, and have been certified by a physician as fit for hazardous waste operations will be allowed within a Site area designated as an EZ or CRZ. Personnel without such training or medical certification may enter the designated SZ only. The Project Coordinator will maintain a list of authorized persons; only personnel on the authorized person's list will be allowed within the EZ or CRZ.

6.2 SITE ORIENTATION AND HAZARD BRIEFING

No person will be allowed in the general work area during O&M activities without first being given a Site orientation and hazard briefing. This orientation will be presented by the HSO or the Project Coordinator, and will consist of a review of this HASP. In addition to this meeting, daily safety meetings will be held each day before work begins.

All individuals within the fenced portion of the Site, including visitors, must document their attendance to this briefing as well as the daily safety meetings on the forms included with this plan (Attachment A).

6.3 CERTIFICATION DOCUMENTS

A training and medical file may be established for the O&M activities and kept on Site for the duration of the long-term O&M period. The 40-hour training, update, and specialty training (first-aid/cardiopulmonary resuscitation [CPR]) certificates, as well as the current annual medical clearance for all O&M field personnel, will be maintained within that file. All personnel must provide their training and medical documentation to the HSO prior to the start of field work.

6.4 ENTRY LOG

A log-in/log-out sheet must be maintained at the Site by the HSO. Personnel may sign in and out on a log sheet as they enter and leave the EZ, or the HSO may document entry in the field notebook.

6.5 ENTRY REQUIREMENTS

In addition to the authorization, hazard briefing, and certification requirements listed above, no person will be allowed to perform any O&M activity unless he or she is wearing the minimum SZ PPE as described in Section 5.0. Personnel entering the EZ or CRZ must wear the required PPE for those locations.

6.6 EMERGENCY ENTRY AND EXIT

People who must enter the Site on an emergency basis will be briefed of the hazards by the HSO. All hazardous activities will cease in the event of an emergency and any sources of emissions will be controlled, if possible.

People exiting the Site because of an emergency will gather in a safe area for a head count. The safe area is to be identified at the beginning of each working day. The HSO is responsible for ensuring that all people who entered the work area have exited in the event of an emergency.

7.0 DECONTAMINATION

Contamination control zones are maintained to prevent the spread of contamination and to prevent unauthorized people from entering hazardous areas. The control zones consist of the EZ, CRZ, and the SZ.

The EZ consists of the specific work area or can be the entire area of suspected contamination. All personnel entering the EZ must use the required personal protective equipment and will have the appropriate training and medical clearance for hazardous waste work. The EZ is the defined area where there is a possible respiratory and/or contact health hazard. The location of each EZ will be identified by cones, caution tape, or other appropriate means.

The CRZ or transition area will be established, if necessary, to perform decontamination of personnel and equipment. All personnel entering or leaving the EZ will pass through this area to prevent any cross-contamination and for reasons of accountability. Tools, equipment, and machinery will be decontaminated in a specific location. The decontamination of all personnel will be performed on Site adjacent to the EZ. Personal protective outer garments and respiratory protection will be removed in the CRZ and prepared for cleaning or disposal. This zone is the only appropriate corridor for personnel and equipment between the EZ and the SZ.

The SZ is a clean area outside the CRZ located to prevent employee exposure to hazardous substances. Eating and drinking will be permitted in the support area only after proper decontamination.

7.1 POSTING

The EZ, CRZ, and SZ will be prominently marked and delineated using either cones or yellow caution tape.

7.2 PERSONNEL DECONTAMINATION

All personnel working in the EZ in Level C or B must undergo personal decontamination in the CRZ prior to entering the SZ. Decontamination procedures are described in Section 5.3.2. The personnel decontamination area will consist of the following stations:

- Station 1:* Personnel leaving the EZ will remove the gross contamination from their outer clothing and boots;
- Station 2:* Personnel will remove their outer garment and gloves and deposit them in the lined waste receptacles. Personnel will then decontaminate their hard hats and boots with an aqueous solution of Alconox or other appropriate cleaning solution. These items are then hand carried to the next station. All wash and rinse waters will be collected and disposed of appropriately; and
- Station 3:* Personnel will thoroughly wash their hands and face before leaving the decontamination zone. Respirators will be sanitized and then placed in a clean plastic ziplock bag.

All personnel working in Level D or Modified Level D will follow the above procedure, as appropriate.

7.3 EQUIPMENT DECONTAMINATION

All equipment that has entered the EZ will be decontaminated prior to leaving the Site. Materials adhering to the equipment will be removed by shovel and/or broom before leaving the EZ. The equipment will then be driven to the decontamination facility under their own power. If the level of contamination is low, decontamination at the decontamination pad may be limited to rinsing of tires and wheel wells, or tracks and under carriage, with water. If the vehicle is significantly contaminated, steam cleaning or pressure washing of vehicles and equipment will be performed within the on-Site decontamination pad. All wash and rinse waters will be collected and discharged to the groundwater collection system.

All equipment used for the collection of samples for chemical analysis including bailers and pumps will be cleaned according to the following protocol:

- Wash and scrub with low phosphate detergent
- Tap water rinse
- Rinse with 10 percent HNO₃, ultrapure
- Tap water rinse
- A methanol rinse followed by hexane rinse (solvents must be pesticide grade or better)

- Thorough rinse with deionized demonstrated analyte free water supplied by the lab. The volume of water used must at least be five times the volume of solvent used in the above step;
- Air dry, and
- Wrap in aluminum foil for transport.

Tap water may be used from any municipal water treatment system. The use of an untreated potable water supply is not an acceptable substitute. If metals samples are not being collected, the 10 percent nitric acid (HNO₃) rinse may be omitted, and if organics samples are not being taken, the solvent rinse may be omitted.

All cleaned equipment will be placed on polyethylene sheeting or aluminum foil in order to avoid contacting a contaminated surface before use.

Before use and between each well, the water level measuring device will be cleaned by rinsing with detergent solution followed by a deionized water rinse. Solvent rinses will not be used because of their potential to damage the instruments.

All equipment used for the collection of samples for physical testing only, including split spoons and trowels, will be cleaned according to the following protocol:

- Water wash to remove all foreign material;
- Use wire brush if required to remove all adhering visible soils; and
- Water wash.

All spent cleaning solvents will be kept separate from the water washes. The water washes will be temporarily stored and discharged to the groundwater collection system. The spent cleaning solvents will be analyzed to determine appropriate disposal/treatment requirements.

7.4 PERSONAL PROTECTIVE EQUIPMENT DECONTAMINATION

Where and whenever possible, single use, external protective clothing must be used for work within the EZ or CRZ. This protective clothing will be placed in properly labelled plastic bags and appropriately disposed.

Reusable protective clothing will be rinsed at the Site with detergent and water. The rinsate will be collected and discharged to the groundwater collection system.

When removed from the CRZ, the respirator will be thoroughly cleaned with soap and water. The respirator face piece, straps, valves and covers must be thoroughly cleaned at the end of each work shift and ready for use prior to the next shift. Respirator parts may be disinfected with a solution of bleach and water or by using a spray disinfectant.

8.0 SITE MONITORING

8.1 AIR MONITORING

The HSO will perform air monitoring to evaluate the exposure of Site workers to chemical and physical hazards, verify the effectiveness of engineering controls, and determine the proper level of PPE only when exposure to Site wastes may occur. The personal air monitoring program will consist of monitoring of worker exposures to volatile organic compounds (VOCs) respirable dust, oxygen, and combustible gases.

Air monitoring will be conducted during ground invasive repair and maintenance activities to verify the proper procedures and PPE are being used based on the conditions measured at the Site. Table C8.1 presents the airborne contaminant action levels that will be used to determine the procedures and PPE necessary during the performance of O&M activities. Air monitoring results will be recorded on a Daily Air Monitoring Log presented in Attachment C.

The air monitoring will be conducted to measure the levels of VOC vapors, respirable dust levels, combustible gas, and oxygen levels present in the worker breathing zone and at the downwind perimeter, as specified below. Air monitoring will consist of both real-time instrumentation and personal air monitoring for specific contaminants.

8.1.1 VOLATILE ORGANIC COMPOUND VAPORS

Upgrade or downgrade of PPE levels will be based upon measurements of airborne constituent levels, and will be determined by the use of portable direct-reading instruments to measure for VOC vapor concentrations and the presence of specific chemical constituents. Due to the potential presence of methane in any landfill environment, air monitoring for VOC vapors will be conducted using a photoionization detector (PID) equipped with either a 10.2 or 10.6 eV lamp, to minimize the potential for interference from methane, and colorimetric indicator tubes for specific compounds (if necessary). PID readings will be taken at one upwind and two downwind locations at the working area within the EZ. A flame ionization detector (FID) may be used in conjunction with the PID to allow for an enhanced level of screening due to the differences in sensitivities between the two instruments. The relative sensitivities of these instruments to total organic vapor (TOV) concentrations that may potentially be encountered at the Site will be known by the HSO. Air monitoring for VOC vapors will be performed at a minimum of once per hour during the initiation of different O&M

activities that have the potential for VOC vapor generation or as deemed necessary by the HSO.

The HSO may increase or decrease the monitoring frequency based on observed Site conditions. Action levels for upgrading or downgrading of PPE have been established for the O&M activities, as summarized in Table C8.1. If the 5 parts per million (ppm) action level (above the Site background) for VOC vapors is exceeded in the worker's breathing zone, personnel will upgrade their level of PPE, as specified in Table C8.1, and controls will be initiated to suppress the emissions.

In addition, the HSO will initiate monitoring at the downwind perimeter of the work area. If the 5 ppm action level above Site background is exceeded at the downwind perimeter of the work area, then work activities having the potential for VOC vapor emission will be stopped and the Vapor Emissions Response Plan (specified in Section 8.5) will be implemented.

8.1.2 COMBUSTIBLE GAS AND OXYGEN

Air monitoring for combustible gases will be conducted during intrusive activities such as excavation. The point of excavation must be monitored to determine if a flammable atmosphere exists. If readings exceed 20% of the Lower Explosive Limit (LEL) (10% for any confined space work), work must stop and the area must be allowed to vent.

Combustible gas and oxygen level monitoring will be conducted as needed in areas that are suspect or when entering a confined space. The HSO will determine the monitoring frequency based on the observed Site conditions. All work activity must stop where monitoring indicates the flammable vapors concentration 20% of the LEL (10% for any confined space work) at a location with a potential ignition source. Such an area must be ventilated to reduce the concentration to an acceptable level. Action levels for combustible gases and oxygen are presented in Table C8.1.

8.1.3 AIRBORNE PARTICULATES

Due to the potential for dust generation during certain O&M activities and because the dust may contain absorbed chemicals, airborne particulate monitoring will be performed during ground invasive activities in which Site wastes are encountered. Airborne particulate monitoring will be performed at one upwind and two downwind locations at the Site perimeter and within the EZ using real-time aerosol/dust monitors,

such as a Mini-RAM Dust Monitor. The action levels for particulates are presented in Table C8.1.

Downwind particulate air monitoring along the Site perimeter will be performed continuously in accordance with the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) entitled "Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites," dated October 27, 1989.

The action level for this Site is 0.150 mg/m³ over the integrated period not to exceed 15 minutes. If particulate levels are detected above 0.150 mg/m³, the background (upwind) level will be measured immediately using the same monitor. If the downwind (working) particulate level is greater than 0.100 mg/m³ above the background level, then additional dust suppression techniques will be implemented (e.g., additional watering, decreasing the work area, etc.). In addition to the PM₁₀ monitoring action levels, a visible dust action level will be in place for this Site. If dust is observed leaving the Site, additional dust suppression techniques will be implemented.

In the event that the action levels are exceeded, the dust suppression techniques described above will be implemented, personnel protective equipment requirements will be upgraded, or the activity will be temporarily shut down until the action levels can be achieved.

Quality assurance/quality control (QA/QC) of the particulate monitors will include periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping/calibration plan.

8.1.4 PERSONAL AIR MONITORING

Personal samples may be collected for selected volatile organic compounds (benzene and vinyl chloride) and inorganics to evaluate worker exposures during various O&M activities where workers may be exposed to waste materials. The personal monitoring program will be implemented for the following reasons:

- To determine 8-hour time-weighted average (TWA) air concentrations for direct comparison to established occupational exposure guidelines;
- To establish an on-Site exposure record;
- To supplement the direct reading monitoring instrumentation for the purpose of delineating Site control zones and evaluating the adequacy of selected protective equipment ensembles; and

- To comply with the monitoring requirements outlined in 29 CFR 1926.65 Hazardous Waste Operations and Emergency Response (HAZWOPER).

The results will be supplied to the personnel being monitored.

8.1.4.1 VOLATILE ORGANIC COMPOUND VAPORS PERSONAL AIR MONITORING

If collected, samples for benzene and vinyl chloride will be collected using NIOSH Methods. Samples will be collected utilizing a personal sample pump and appropriate sample media, or approved organic vapor badges. Sample pumps will be calibrated daily to a flow rate of 1 liter/minute with a representative sampler in place. Personal air sampling will be initially conducted weekly for the "worst-case" worker during O&M activities which have the potential for generation of organic vapors. Sampling frequency may be revised depending on the initial results.

8.1.4.2 INORGANIC COMPOUND PERSONAL AIR MONITORING

If collected, samples for arsenic, lead, and mercury will be collected using NIOSH Methods. This type of sampling involves the use of a 0.8 micron (um) mixed cellulose ester filter (MCE) in conjunction with a personal sampling pump operating at 1 liter/minute. Analysis will be performed by NIOSH Method 7300. Representative sampling will be conducted weekly for the "worst case" worker. Depending on the results of the initial monitoring approach, the sampling frequency may be revised and/or additional monitoring for other workers may be necessary.

8.1.4.3 MONITORING PROTOCOL

When sampling is initiated, representative breathing zone samples may be collected during initiation of each activity in which Site wastes are encountered. Air monitoring frequencies described in Section 8.1.4.1 and 8.1.4.2, may be increased or decreased at the discretion of the HSO based upon observed Site conditions. The worker sampled will be that who has the greatest potential for exposure to air contaminants during the specific activity. Air sampling procedures for benzene and vinyl chloride will be utilized as required to meet OSHA standards. Applicable NIOSH and/or OSHA sampling methods will be used. All personnel samples will be submitted to an independent, AIHA-accredited laboratory for analysis. Accompanying media blanks will also be

submitted to the laboratory for analysis. Holding time requirements and field preparation procedures specified in the respective NIOSH or OSHA sampling method will be followed.

The following information must be gathered during the sampling program:

- Worker name and social security number;
- Description of the activity being performed while wearing the sampling device; and
- Sampling duration.

8.2 NOISE MONITORING

Noise monitoring will be conducted as required. Hearing protection is mandatory for all workers in noise hazardous areas, such as around heavy equipment. As a general rule, sound levels that cause speech interference at normal conversation distance should require the use of hearing protection.

8.3 MONITORING EQUIPMENT MAINTENANCE AND CALIBRATION

All direct reading instrumentation calibrations should be conducted under the approximate environmental conditions the instrument will be used. Instruments will be calibrated in accordance with the procedures and frequency specified by the manufacturer, noting the reading(s) and any adjustments which are necessary. All air monitoring equipment calibrations, including the standard used for calibration, must be documented on a calibration log or in the field notebook. All completed documentation/forms must be maintained by the HSO.

All air monitoring equipment will be maintained and calibrated in accordance with the specific manufacturers' procedures. Preventive maintenance and repairs will be conducted in accordance with the respective manufacturers' procedures. When applicable, only manufacturer-trained and/or authorized personnel will be allowed to perform instrument repairs or preventive maintenance.

If an instrument is found to be inoperative or suspected of giving erroneous readings, the HSO will be responsible for immediately removing the instrument from service and obtaining a replacement unit. If the instrument is essential for safe operation during a

specific activity that activity must cease until an appropriate replacement unit is obtained. The HSO will be responsible for ensuring a replacement unit is obtained and/or repairs are initiated on the defective equipment.

8.4 COMMUNITY AIR MONITORING

Real-time air monitoring for VOC vapors and respirable dust particulates will be performed by the HSO at the Site perimeter during any ground invasive activity that encounters Site wastes. The community air monitoring will be conducted in accordance with the following:

- VOC vapors will be monitored using a PID equipped with either a 10.2 or 10.6 eV lamp at the downwind perimeter of the EZ on a continuous basis during ground intrusive activities. If VOC vapor levels exceed 5 ppm above background, work activities will stop and monitoring will continue under the provisions of the Vapor Emission Response Plan (Section 8.5). All monitoring results will be recorded on Daily Air Monitoring Log (Attachment E); and
- Respirable dust particulates will be continuously monitored upwind and downwind of the EZ in accordance with the procedures defined in Section 8.1.3. Real-time monitoring for respirable dust particles will also be performed during all “clean” activities which may generate dust (e.g., placement of cap barrier protection layer). All monitoring results will be recorded on Daily Air Monitoring Log (Attachment E).

8.5 VAPOR EMISSIONS RESPONSE PLAN

Should monitoring results for VOCs indicate levels exceeding 5 ppm above background at the perimeter of the EZ, work activities will be suspended until alternate work methods or engineering controls are in place to reduce emissions. In addition, continuous monitoring will continue at the perimeter of the EZ. If VOC levels drop to below 5 ppm above background, work activities may resume. If elevated readings persist, work activities may resume provided:

- The VOC level 200 feet downwind of the EZ or half the distance to the nearest residential or commercial structure, whichever is less, is less than 5 ppm (background); and
- Continuous monitoring for VOCs is maintained.

If readings indicate VOC levels are above 25 ppm above background at the downwind perimeter of the EZ, activities will be stopped. When stoppage occurs, downwind monitoring as directed by the HSO will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in Section 8.5.1 (Major Vapor Emissions).

8.5.1 MAJOR VAPOR EMISSIONS

If readings indicate VOC levels greater than 5 ppm above background 200 feet downwind from the work area or half the distance to the nearest residential or commercial structure, whichever is less, all work activities potentially contributing to the elevated levels must be suspended.

If, following the suspension of work activities, or as the result of an emergency, VOC levels persist above 5 ppm (above background) 200 feet downwind from the work area perimeter or half the distance to the nearest residential or commercial property, then the air quality will be monitored for VOCs within 20 feet of the perimeter of the nearest residential or commercial structure (20-Foot Zone).

8.5.2 MAJOR VAPOR EMISSIONS RESPONSE PLAN

If efforts to abate the emission source are unsuccessful and VOC levels approaching 5 ppm (above background) persist for more than 30 minutes in the 20-Foot Zone, then the Major Vapor Emission Response Plan below, will automatically be placed into effect. However, the Major Vapor Response Plan below, will be immediately placed into effect if VOC levels are greater than 5 ppm (above background) in the 20-Foot Zone.

Upon activation of this plan, the following activities will be undertaken:

- All Emergency Response Contacts as listed in this HASP (see Table C11.1) will be notified;
- The local police authorities will immediately be contacted by the HSO and advised of the situation; and
- Frequent air monitoring for VOCs will be conducted at 30-minute intervals within the 20-Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the HSO.

9.0 WORKER TRAINING

All on-Site project personnel who work in an EZ must have completed hazardous waste operations-related training, as required by OSHA Regulation 29 CFR 1926.65. All field workers receive a minimum of three days of actual field experience under the direct supervision of a trained, experienced supervisor. Personnel who completed their training more than 12 months prior to the start of the project must have completed an 8-hour refresher course within the past 12 months. The Project Coordinator and HSO must have completed an additional 8 hours of training for supervisors and must have a current first-aid/CPR certificate.

9.1 BASIC 40-HOUR COURSE

The following is a list of the topics typically covered in a 40-hour training course:

- General safety procedures;
- Physical hazards (fall protection, noise, heat stress, cold stress);
- Names and job descriptions of key personnel responsible for Site health and safety;
- Safety, health, and other hazards typically present at hazardous waste sites;
- Use, application, and limitations of PPE;
- Work practices by which workers can minimize risks from hazards;
- Safe use of engineering controls and equipment on Site;
- Medical surveillance requirements;
- Recognition of symptoms and signs which might indicate overexposure to hazards;
- Worker right-to-know (Hazard Communication OSHA 1910.1200);
- Routes of exposure to contaminants;
- Engineering controls and safe work practices;
- Components of a Site health and safety program and HASP;
- Decontamination practices for personnel and equipment;
- Confined-space entry procedures; and
- General emergency response procedures.

9.2 SUPERVISOR COURSE

Management and supervisors receive an additional 8 hours of training which typically includes:

- General Site safety and health procedures;
- PPE programs; and
- Air monitoring techniques.

9.3 SITE-SPECIFIC TRAINING

Site-specific training will be accomplished through a Site briefing and review of this HASP before work begins. In addition, daily safety meetings will cover the work to be accomplished, the hazards anticipated, the protective clothing and procedures required to minimize Site hazards, and emergency procedures. No work will be performed before the daily safety meeting has been held. The daily safety meetings must also be held prior to new tasks and repeated if new hazards are encountered.

9.4 EXCAVATION COMPETENT PERSON TRAINING

When excavation work is in progress, at least one person on Site shall be trained as a Competent Person for the purpose of examining Site excavations and determining if they are properly dug, sloped, benched, or shored. The Competent Person training must be in compliance with regulations codified at 29 CFR 1926 Subpart P, and evidence of this training must be maintained at the Site.

9.5 FIRST AID AND CPR

At least one worker current in first aid/CPR will be assigned to the work crew and will be on the Site during O&M activities that encounter Site wastes. Refresher training in first aid (triennially) and CPR (annually) is required to keep the certificate current. These individuals must also receive training regarding the precautions and protective equipment necessary to protect against exposure to bloodborne pathogens.

10.0 MEDICAL SURVEILLANCE

10.1 MEDICAL EXAMINATION

All on-Site personnel who enter an EZ must have successfully completed a pre-placement or annual physical examination, which is provided free-of-charge to the worker. This medical surveillance program must comply with OSHA 29 CFR 1926.65 (f).

10.1.1 PRE-PLACEMENT MEDICAL EXAMINATION

All on-Site project personnel who enter and EZ must have completed a comprehensive medical examination within the past 12 months that meets the requirements of applicable OSHA Regulations. The annual medical examination typically includes the following elements:

- Medical and occupational history questionnaire;
- Physical examination;
- Complete blood count, with differential;
- Liver enzyme profile;
- Chest X-ray, once every 3 years;
- Pulmonary function test;
- Audiogram;
- Electrocardiogram for persons older than 45 years of age, or if indicated during the physical examination;
- Drug and alcohol screening, as required by job assignment;
- Visual acuity; and
- Follow-up examinations, at the discretion of the examining physician or the corporate medical director.

The examining physician provides the worker with a letter summarizing his findings and recommendations, confirming the worker's fitness for work and ability to wear a respirator. Documentation of medical clearance will be available for each worker during all O&M activities that results in exposure to Site wastes or groundwater. Each worker also has the right to inspect and copy his medical records.

Engineer/contractor/subcontractors will certify that all their workers have successfully completed a physical examination by a qualified physician. The physical examinations must meet the requirements of 29 CFR 1926.65 and 29 CFR 1910.134. Contractors/subcontractors will supply copies of the medical examination certificate for each on-Site worker, to the HSO.

10.1.2 OTHER MEDICAL EXAMINATIONS

In addition to pre-employment, annual, and exit physicals, personnel may be examined:

- At worker request after known or suspected exposure to toxic or hazardous materials;
- At the discretion of the Town, health and safety professional, or occupational physician in anticipation of, or after known or suspected exposure to toxic or hazardous materials; and
- At the discretion of the occupational physician.

10.1.3 PERIODIC EXAM

Following the pre-placement examination, all workers that have been exposed to Site wastes or groundwater must undergo a periodic examination, similar in scope to the pre-placement examination. For workers potentially exposed more than 30 days per year, the frequency of periodic examinations will be annual. For workers potentially exposed less than 30 days per year, the frequency for periodic examinations will be 18 months.

10.2 FIRST AID AND MEDICAL TREATMENT

All persons on Site must report any near-miss incident, accident, injury, or illness to their immediate supervisor or the HSO. First aid will be provided by the designated Site first aider. Injuries and illnesses requiring medical treatment must be documented. The HSO must conduct an accident investigation as soon as emergency conditions no longer exist and first-aid and/or medical treatment has been ensured, and prepare the Town's Accident Investigation Report.

If first-aid treatment is required, first aid kits will be available on Site. If treatment beyond first aid is required, the injured should be transported to the medical facility. If the injured is not ambulatory, or shows any sign of not being in a comfortable and stable condition for transport, then an ambulance/paramedics should be summoned. If there is any doubt as to the injured worker's condition, it is best to let the local paramedic or ambulance service examine and transport the worker.

10.3 MEDICAL RESTRICTION

When the examining physician identifies a need to restrict work activity, the worker's supervisor must communicate the restriction to the worker, the Project Coordinator, and the HSO. The terms of the restriction will be discussed with the worker and his supervisor. Every attempt should be made to keep the worker working, while not violating the terms of the medical restriction.

11.0 EMERGENCY PROCEDURES

The Project Coordinator and HSO will establish evacuation routes and assembly areas for the Site. All personnel entering the fenced portion of the Site will be informed of these routes and assembly areas. A Site plan depicting the evacuation routes will be posted at conspicuous locations.

The O&M activity will be evaluated for the potential for fire, explosion, chemical release, or other catastrophic events. For active facilities, Site emergency procedures must be communicated to all project personnel. Unusual events, activities, chemicals, and conditions will be reported to the Project Coordinator immediately. When necessary, the Town's Accident Investigation Report will be completed by the Project Coordinator.

11.1 EMERGENCY RESPONSE

If an incident occurs, the following steps will be performed by the Site Manager:

- Evaluate the incident and assess the need for assistance and/or evacuation;
- Call for outside assistance as needed;
- Act as liaison between outside agencies and on-Site personnel;
- Promptly notify the NYSDEC of the incident; and
- Take appropriate measures to stabilize the incident scene.

11.1.1 FIRE

In the case of a fire on the Site, the Project Coordinator will assess the situation and direct fire-fighting activities. Site personnel will attempt to extinguish the fire with available extinguishers, if safe to do so. In the event of a fire that Site personnel are unable to safely extinguish, the local fire department will be summoned via 911 or other number. Table C11.1 lists the telephone numbers of the appropriate local authorities.

11.1.2 SPILLS

If exposure of Site waste is anticipated appropriate spill containment equipment will be available on Site to isolate and contain spills that occur during the O&M activity. The

Project Coordinator will determine which of the following spill containment equipment will be needed:

- reeled barricade tape;
- spill control booms;
- spill control pillows;
- spill control blankets;
- spill dikes;
- emergency response guidebooks;
- Haz-Mat disposal bags;
- personal protective equipment;
- Haz-Mat disposal drums; and
- dry absorbents.

Should a major spill of hazardous materials occur, the Project Coordinator will immediately notify the NYSDEC and call the NYSDEC Emergency Response Commission (Table C11.1), and a qualified NYSDEC-contracted spill response team will respond to contain and clean up the spill. If human health or the environment are threatened, then the National Response Center (NRC) and NYSDEC shall be notified. Appropriate local authorities (police, fire department, traffic control, etc.) will also be notified. NRC will be notified of any release of reportable quantities including all releases which threaten human health or the environment. NYSDEC will determine if other releases require notification to the NRC. The Project Coordinator will prepare a report identifying the cause of the spill, the location of the spill, the method used to clean up the spill, and corrective actions to be performed to prevent this type of spill from occurring in the future. A copy of this report will be provided to the appropriate project staff and the NYSDEC.

On-Site

If a spill occurs, the procedure described above will be implemented with the following health and safety considerations:

- Notify the Project Coordinator immediately;
- Evacuate immediate area of spill;
- Conduct air monitoring to determine needed level of PPE;

- Don required level of PPE and prepare to make entry to apply spill containment and control procedures;
- No entry will be made until atmosphere is less than 20% LEL (10% LEL for confined space); and
- Absorb or otherwise clean up the spill and containerize the material, sorbent, and affected soils.

The HSO has the authority to commit resources as needed to contain and control released material and to prevent its spread to off-Site areas.

Releases from drums containing solid wastes will be placed into approved containers and covered. Each container will be labeled as to contents. Solid spills from haulage units will be placed back into haulage units.

In the event that a drum or container of liquid is spilled on Site outside of an excavation area, a drum handling team will immediately respond to the spill. The spilled liquids will be confined to the immediate area of the spill and the liquids will be pumped, with the use of a portable hand pump, into a repack drum. The spilled liquids will be confined by diking around the spill with native material or with an inert absorbent. Any residual liquids which cannot be pumped will be absorbed with a sufficient quantity of inert absorbent to ensure that no free liquids remain. If the spill occurred on soil, the visibly affected soil will be excavated to limits based on a visual determination of spill contamination with the concurrence of the NYSDEC, if present on-Site. The absorbent and excavated material will be drummed or otherwise appropriately contained.

Liquids spilled within excavations will be pumped, with the use of a portable hand pump, into a repack drum. Soil/fill adjacent to the spill area will be placed to absorb any residual liquid. Materials underlying the spill zone will be treated as contaminated materials based on a visual determination of spill contamination. This material will be excavated, drummed and staged in the drum/debris staging area.

The need to conduct post-cleanup sampling and the analytical requirements for sampling native soil in which a release occurs outside of contaminated areas will be determined and agreed to by the NYSDEC. If required, samples will be collected over the immediate area of the spill. Existing analytical data for the released materials will be used to determine the analytes of concern.

Off-Site

Only authorized transporters will be used for the transportation of hazardous materials. If a release of material from a transport vehicle occurs while in transit, the following actions will be taken to reduce potential migration of the waste material:

- i) Immediately notify the Project Coordinator, who will in turn notify the NYSDEC;
- ii) Take immediate measures within the capabilities of the transport driver to control the release, if necessary;
- iii) Contain and eliminate the release, if possible;
- iv) The driver must remain within a safe distance of the vehicle, and will keep unnecessary people away, isolate the area of the release and deny entry to unauthorized personnel;
- v) Stay upwind, keeping out of low areas, and do not allow contact with the released material;
- vi) Contact the appropriate local authorities (police, fire department, traffic control, etc.) and local hazardous materials response unit; and,
- vii) Other actions, as advised by the spill response team.

Upon implementing these procedures, the same action to clean up the release will be implemented as described in the on-Site section.

11.1.3 ENCOUNTERED DRUMS

Excavation activities during O&M activities that expose Site wastes may present the potential of exposing buried drums. In the event a drum is encountered during excavating, NYSDEC will be notified, and the following procedures will be implemented under the supervision of the appropriate personnel:

- the drum will be removed using either a horizontal non-sparking drum sling, a vertical non-sparking drum lifter, or a backhoe grappeler to allow removal of the drum from any orientation;
- after the drum is removed, it will be placed immediately in an overpack drum if leaking, visually inspected, and scanned with portable monitoring devices. Signs of internal pressure, signs of corrosion, type of material the drum is constructed of, and markings or labels on the drum will be observed and recorded. Portable monitoring devices used to screen drums will include a Geiger counter to measure radiation, a

lower explosive limit (LEL) meter to measure combustibility, and a photoionization detector (PID) to measure volatile organic compounds (VOCs);

- the drum will be labeled with a distinctive identification number;
- visibly impacted soils and drums with conforming waste will be placed directly in off-site haulage units with open tops such that contents are visible for inspection by the off-Site disposal facility;
- drums with non-conforming waste and/or on-contact radiological reading of 30,000 counts per minute (cpm) above background will be transported to a dedicated on-Site staging area for characterization;
- in the staging area, the non-conforming drum contents will be visually inspected, and sampled and tested for compatibility and/or radionuclides, as appropriate, using the appropriate health and safety measures;
- visibly impacted soils will be excavated and containerized (e.g., roll-off lined with 6-mil polyethylene);
- Bulk LLRW material will be containerized (e.g., drums, boxes);
- when sufficient containers with non-conforming contents and/or radioactive source materials (LLRW) have been staged, they will be characterized using the procedures presented in Attachment F to determine the appropriate disposal method;
- the drums/visibly impacted soils/LLRW will be disposed of at an appropriate off-Site disposal facility in accordance with applicable federal, state, and local regulations;
- Empty drum carcasses and drum parts will be replaced within the portion of the excavation beneath the gas venting layer;
- Air monitoring for VOCs, LEL and radioactivity will be conducted during all drum handling activities;
- Personnel involved with the drum removal, inspection, and sampling will be required to wear Level B PPE; and
- Only spark-proof tools will be permitted to be used when working with the recovered drums.

Based on the analytical results of each drum's contents, the HSO will determine the level of PPE to be worn for the disposal of each drum.

11.1.4 LEACHATE OUTBREAK/SEEPS

Construction or containment activities associated with a leachate seep will be performed in Level C PPE with continuous air monitoring for VOCs and LEL. Procedures for addressing the leachate seep are described in Section 5.3.1.5 of the O&M Plan.

11.2 MEDICAL EMERGENCY

All worker injuries must be promptly reported to the HSO. The HSO will:

- Ensure that the injured worker receives prompt first aid and medical attention;
- In emergency situations, the worker is to be transported by appropriate means to the nearest urgent care facility (normally a hospital emergency room); and
- Notify the appropriate medical surveillance personnel as soon as possible after the worker has left the Site.

11.2.1 FIRST AID - GENERAL

General first aid practices should be implemented only by qualified personnel and includes the following:

- Survey the scene. Determine if it is safe to proceed. Try to determine if the conditions which caused the incident are still a threat. Protect yourself from exposure before attempting to rescue the victim;
- Phone Emergency Medical Services (EMS). Give the location, telephone number used, caller's name, what happened, number of victims, victims' condition, and help being given;
- Maintain airway and perform rescue breathing as necessary;
- Perform cardiopulmonary resuscitation (CPR) as necessary;
- Do a second survey of the victim. Check vital signs and do a head-to-toe exam; and
- Treat other conditions as necessary. If the victim can be moved, take him to a location away from the work area where EMS can gain access.

11.2.2 FIRST AID-INHALATION

Any worker complaining of symptoms of chemical overexposure, as described in Section 3.0, will be removed from the work area and transported to the designated medical facility for examination and treatment.

11.2.3 FIRST AID - INGESTION

Call EMS and consult a poison control center for advice. If available, refer to the MSDS for treatment information, if recommended. If unconscious, keep the victim on his side and clear the airway if vomiting occurs.

11.2.4 FIRST AID-SKIN CONTACT

Project personnel who have had skin contact with contaminants will, unless the contact is severe, proceed through the decontamination zone, to the wash-up area. Personnel will remove any contaminated clothing, and then flush the affected area with water for at least 15 minutes. The worker should be transported to the medical facility if they show any sign of skin reddening, irritation, or if they request a medical examination.

11.2.5 FIRST AID - EYE CONTACT

Project personnel who have had contaminants splashed in their eyes or who have experienced eye irritation while in the contaminated zone, must immediately proceed to the eyewash station, set up in the decontamination zone. Do not decontaminate prior to using the eyewash. Remove whatever protective clothing is necessary to use the eyewash. Flush the eye with clean running water for at least 15 minutes. Arrange prompt transport to the designated medical facility.

11.3 REPORTING INJURIES AND ILLNESSES

All injuries and illnesses, however minor, will be reported to the HSO immediately. The HSO will complete an injury report and submit it to the appropriate people.

11.4 EMERGENCY INFORMATION

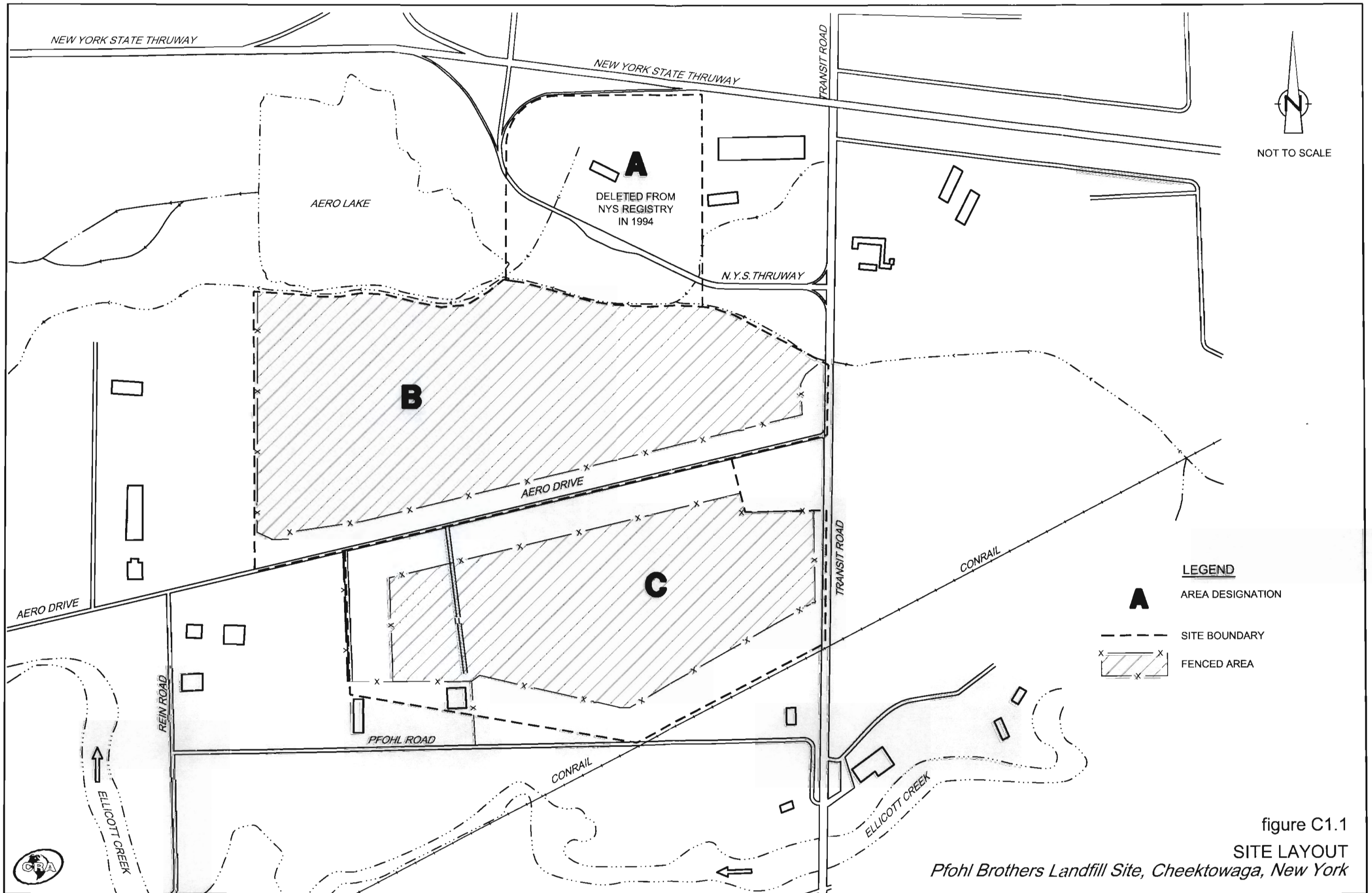
The means to summon local public response agencies such as police, fire, and ambulance will be reviewed in the Daily Safety Meeting. A listing of the emergency response agencies for this project is included in Table C11.1.

11.5 HOSPITAL ROUTES

Directions to the primary and secondary hospitals are displayed on Figure C11.1 and described below.

Primary - *St. Joseph's Intercommunity Hospital*: West on Aero Drive to Holtz Road, south (left) onto Holtz Road to Genesee Street (Route 33), west (right) onto Genesee Street to Expressway (Route 33), Expressway to Harlem Road exit (Route 240), and south (left) onto Harlem Road (Route 240) to hospital entrance.

Secondary - *Millard Fillmore Suburban Hospital*: West on Aero Drive to Youngs Road, north (right) onto Youngs Road to Maple Road, and west (left) onto Maple Road to the hospital entrance.



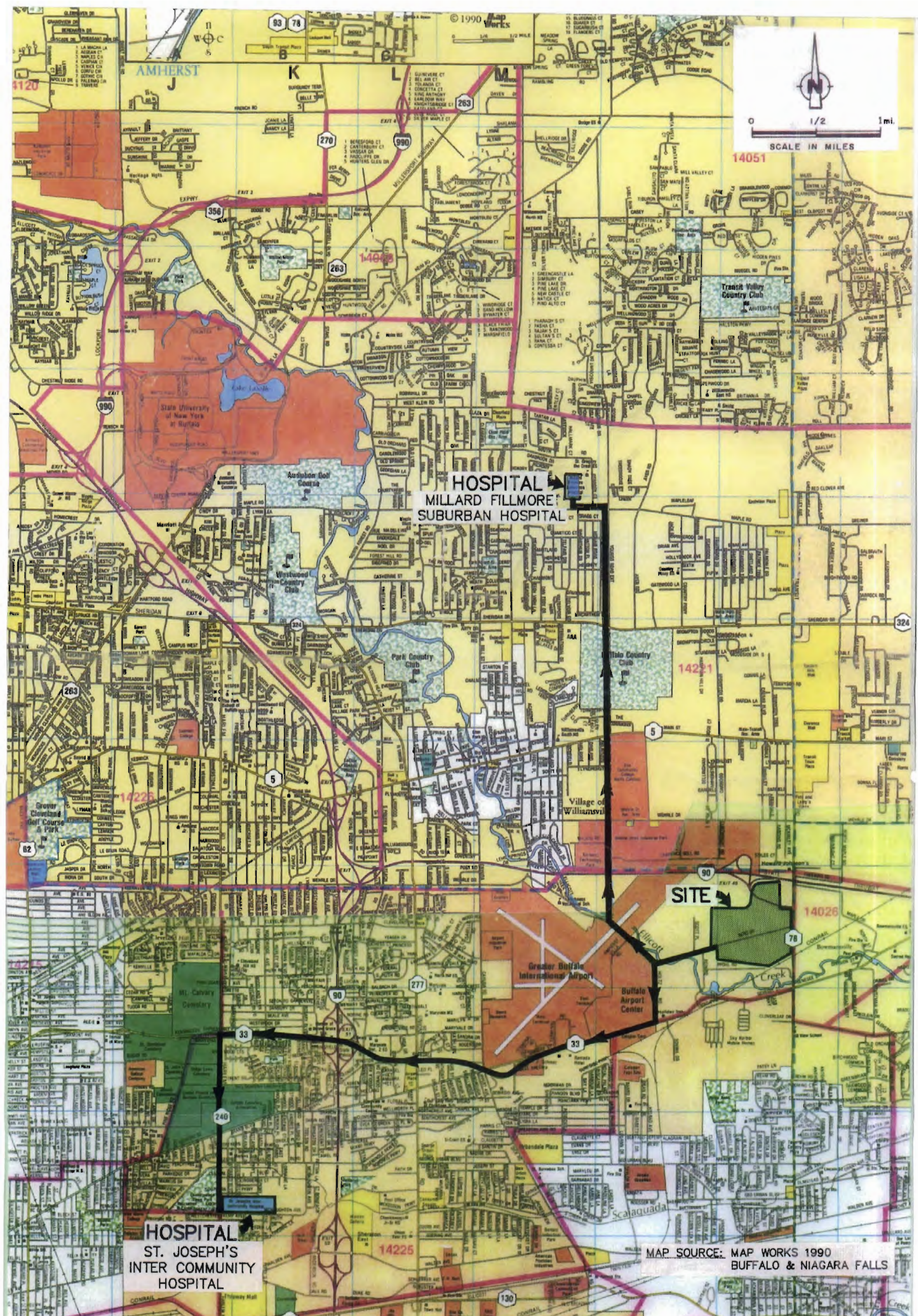


figure C11.1

EMERGENCY HOSPITAL ROUTE
 SITE SPECIFIC HEALTH & SAFETY PLAN
Pfohl Brothers Landfill Site, Cheektowaga, New York



ATTACHMENT C

HEAT STRESS PREVENTION AND MONITORING

HEAT STRESS PREVENTION AND MONITORING ⁽¹⁾

Heat stress may occur at any time work is being performed at elevated temperatures. Wearing of chemical protective clothing, which may result in decreasing natural body ventilation, increases the risk of heat stress.

If the body's physiological processes fail to maintain a normal body temperature because of excessive heat, a number of physical reactions can occur, ranging from mild (such as fatigue, irritability, anxiety, and decreased concentration, dexterity movement) to fatal. Because heat stress is one of the most common and potentially serious illnesses at hazardous waste sites, regular monitoring and other preventative measures are vital.

Site workers must learn to recognize and treat the various forms of heat stress. The best approach is preventative heat stress management. In general, if possible:

1. have workers drink 16 ounces of water before beginning work, such as in the morning or after lunch. Provide disposable 4-ounce cups, and water that is maintained at 50 to 60°F. Urge workers to drink one to two of these cups of water every 20 minutes for a total of 1 to 2 gallons per day. Provide a cool area for rest breaks. Discourage the intake of coffee during working hours. Monitor for signs of heat stress;
2. acclimate workers to Site work conditions by slowly increasing workloads (e.g., do not begin Site work activities with extremely demanding activities);
3. provide cooling devices to aid natural body ventilation. These devices, however, add weight and their use should be balanced against worker efficiency. An example of a cooling aid is long cotton underwear which acts as a wick to absorb moisture and protect the skin from direct contact with heat-absorbing protective clothing;
4. in extremely hot weather, conduct field activities in the early morning and evening;
5. ensure that adequate shelter is available to protect personnel against heat as well as cold, rain, snow, etc., which can decrease physical efficiency and increase the probability of both heat and cold stress. If possible, set up the command post in the shade;
6. in hot weather, rotate shifts of workers wearing impervious clothing; and
7. good hygienic standards must be maintained by frequent changes of clothing and showering. Clothing should be permitted to dry during rest periods.

(1) Sources: (USEPA, 1985) 29 United States Code of Federal Regulations, 1910.29.

Persons who notice skin problems should immediately consult medical personnel.

The following is a discussion of specific results of heat stress.

Heat Stroke

Heat stroke is an acute and dangerous reaction to heat stress caused by failure of heat regulating mechanisms of the body; the individual's temperature control system that causes sweating stops working correctly. Body temperature rises so high that brain damage and death will result if the person is not cooled quickly.

- Symptoms - Red, hot, dry skin, although person may have been sweating earlier; nausea; dizziness; confusion; extremely high body temperature; rapid respiratory and pulse rate; unconsciousness or coma.
- Treatment - Cool the victim quickly. If the body temperature is not brought down fast, permanent brain damage or death will result. Soak the victim in cool, but not cold water; sponge the body with cool water or pour water on the body to reduce the temperature to a safe level (102°F). Observe the victim and obtain medical help. Do not give coffee, tea or alcoholic beverages.

Heat Exhaustion

Heat exhaustion is a state of every definite weakness or exhaustion caused by the loss of fluids from the body. The condition is much less dangerous than heat stroke, but it nonetheless must be treated.

- Symptoms - Pale, clammy, moist skin; profuse perspiration and extreme weakness. Body temperature is normal, pulse is weak and rapid, breathing is shallow. The person may have a headache, may vomit and may be dizzy.
- Treatment - Remove the person to a cool, air conditioned place, loosen clothing, place in a head-low position and provide bed rest. Consult physician, especially in severe cases. The normal thirst mechanism is not sensitive enough to ensure body fluid replacement. Have patient drink one to two cups of water immediately, and every 20 minutes thereafter until symptoms subside. Total water consumption should be about 1 to 2 gallons per day.

Heat Cramps

Heat cramps are caused by perspiration that is not balanced by adequate fluid intake. Heat cramps are often the first sign of a condition that can lead to heat stroke.

- Symptoms - Acute painful spasms of voluntary muscles (e.g., abdomen and extremities).
- Treatment - Remove victim to cool area and loosen clothing. Have patient drink one to two cups of water immediately and every 20 minutes thereafter until symptoms subside. Total water consumption should be 1 to 2 gallons per day.

Heat Rash

Heat rash is caused by continuous exposure to heat and humid air and is aggravated by chafing clothes. The condition decreases ability to tolerate heat.

- Symptoms - Mild red rash, especially in areas of the body that come into contact with protective gear.
- Treatment - Decrease amount of time in protective gear and provide powder to help absorb moisture and decrease chafing.

Heat Stress Monitoring and Work Cycle Management

For strenuous field activities that are part of ongoing Site work activities in hot weather, the following procedures shall be used to monitor the body's physiological response to heat, and to manage the work cycle, even if workers are not wearing impervious clothing. These procedures are to be instituted when the temperature exceeds 70°F. If possible these measures will be supplemented by the use of automatic monitoring equipment which can be worn by the workers under their PPE.

- Measure Heart Rate - Heart rate (HR) should be measured by the radial pulse for 30 seconds as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats/minute. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 110 beats/minute at the beginning of the next rest period, the following work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 110 beats/minute.

- Measure Body Temperature - When ambient temperature is over 90°F, body temperatures should be measured with a clinical thermometer as early as possible in the resting period. If oral temperature (OT) at the beginning of the rest period exceeds 99.6°F, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the OT exceeds 99.6°F at the beginning of the next rest period, the following work cycle should be further shortened by 33 percent. The procedure is continued until the body temperature is maintained below 99.6°F.
- Physiological Monitoring Schedule - The following Suggested Frequency of Physiological Monitoring Schedule for Fit and Acclimated Workers shall be used as a guideline.

<i>(Adjusted)</i>	<i>Temperature (Level D)</i>	<i>(Level C)</i>
90°F (32.2°C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5°F (30.8 - 32.2°C)	After each 60 minutes of work	After each 30 minutes of work
82.5 - 87.5°F (28.1 - 32.2°C)	After each 90 minutes of work	After each 60 minutes of work
77.5 - 82.5°F (25.3 - 28.1°C)	After each 120 minutes of work	After each 90 minutes of work
72.5 - 77.5°F (22.5 - 25.3°C)	After each 150 minutes of work	After each 120 minutes of work

Measure the air temperature with a standard thermometer. Estimate the fraction of sunshine by judging what percent of the sun is out.

100% sunshine = no cloud cover = 1.0

50% sunshine - 50% cloud cover = 0.5

0% sunshine - full cloud cover = 0.0

Adjusted temp. = actual temp. + 13 x (% sunshine factor).

The length of work period is governed by Frequency of Physiological Monitoring. The length of the rest period is governed by physiological parameters (heart rate and oral temperature). For example, if an individual's heart rate exceeds 110 beats/minute at the beginning of the rest period, that individual will remain on rest-time until his/her heart rate drops well below 110 beats/minute and their next work period (= duration of time before suggested physiological monitoring) is decreased by 33 percent.

ATTACHMENT D

COLD STRESS PREVENTION AND MONITORING

COLD STRESS PREVENTION AND MONITORING

Persons working outdoors in low temperatures, especially at or below freezing are subject to cold stress. Exposure to extreme cold for a short time causes severe injury to the surface of the body, or results in profound generalized cooling, causing death. Areas of the body which have a high surface area-to-volume ratio such as fingers, toes, and ears, are the most susceptible.

Chemical protective clothing generally does not afford protection against cold stress. In many instances, it increases susceptibility. Hazardous waste Site workers must learn to dress carefully to provide chemical protection and thermal insulation while not dressing so warmly that exercise or strenuous activity will result in heat stress.

Provisions must also be made for the fact that after physical activity and accumulation of body heat, sudden chilling during decontamination and rest breaks may increase susceptibility to colds, etc.

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind Chill Indices describe the chilling effect of moving air in combination with low temperature.

As a general rule, the greatest incremental increase in wind chill occurs with a wind of 5 miles per hour (mph). Additionally, water conducts heat 240 times faster than air; thus, the body cools suddenly when chemical-protective equipment is removed if the clothing underneath is perspiration-soaked.

Frostbite

Local injury resulting from cold is included in the generic term frostbite. Frostbite of the extremities can be categorized into:

1. frost nip or incipient frostbite is characterized by sudden blanching or whitening of skin;
2. superficial frostbite is characterized by skin with a waxy or white appearance and is firm to the touch, but tissue beneath is resilient; and
3. deep frostbite is characterized by tissues that are cold, pale and solid.

To administer first aid for frostbite:

1. take the victim indoors and rewarm the areas quickly in water that is between 39°C and 41°C (102°F to 105°F);
2. give a warm drink - water or juices, no coffee, tea or alcohol. The victim must not smoke;
3. keep the frozen parts in warm water or covered with warm clothes for 30 minutes even though the tissue will be very painful as it thaws;
4. then elevate the injured area and protect it from injury;
5. do not allow blisters to be broken;
6. use sterile, soft, dry material to cover the injured areas; and
7. keep victim warm and get immediate medical care.

After thawing, the victim should try to move the injured areas a little, but no more than can be done alone, without help. Seek medical attention as soon as possible.

Note:

1. Do not rub the frostbitten part (this may cause gangrene).
2. Do not use ice, snow, gasoline or anything cold on the frostbitten area.
3. Do not use heat lamps or hot water bottles to rewarm the part.
4. Do not place the part near a hot stove.

Hypothermia

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages:

1. shivering;
2. apathy, listlessness, sleepiness;
3. (sometimes) rapid cooling of the body to less than 95°F;
4. unconsciousness, glassy stare, slow pulse, slow respiration; and
5. death.

If hypothermia is suspected in any field personnel, move person to a warmer location until symptoms recede.

ATTACHMENT E

DAILY AIR MONITORING LOG

ATTACHMENT F

**WASTE HANDLING PROCEDURES FOR
DRUM MATERIAL AND IMPACTED SOILS
EXCAVATED DURING O&M ACTIVITIES**

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3.0 ANALYTICAL RESULTS	F-2
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1.0 INTRODUCTION

This procedure is to be followed whenever O&M activities result in the exposure of Site wastes located beneath the VFPE membrane. It is intended to facilitate the off-site disposal of drummed material, debris, impacted soils, and radiologic materials to be excavated during operation and maintenance (O&M) activities at the Pfohl Brothers Landfill Site (Site). The procedure will be detailed in the selected engineer's/contractor's work plan which will be submitted for NYSDEC review and approval as a separate deliverable. These materials have been characterized as non-hazardous and, except for the radiologic materials, will be disposed of in containers and bulk shipped. Radiologic materials will be handled/disposed based on the concentrations of radionuclides present in the material.

2.0 SCOPE OF WORK

Certain O&M activities involve the excavation and off-site disposal of "impacted soil and drum material/debris and radiologic source materials". During such activities, background levels of radioactivity will be measured at the beginning of each work day and recorded. Detectors will be calibrated prior to the start of the O&M activity and source checks will be used at the beginning and end of each workday to confirm that the instruments are functioning properly and remain in calibration.

Any intact drums will be excavated, screened for radioactivity using a 2x2 NaI detector. Where the detector gives an on-contact reading exceeding 30,000 counts per minute (cpm) above the background level of radioactivity, the drum will be handled on-Site as low-level radioactive waste (LLRW) prior to off-Site disposal. The final disposition of the contents of such drums will be determined based on the radionuclide concentrations present in the drum and the waste acceptance criteria for permitted off-Site facilities.

Drums with on-contact readings not exceeding 30,000 cpm above background will be opened and the drum contents will then be visually observed to ensure that the material conforms with the waste profile prepared for the Remedial Action (attached). Material that has been determined by the Project Coordinator (and NYSDEC) to be visually conforming may be included in the bulk shipments. Based on the waste profile, the conforming waste may be bulked for transport to a permitted landfill. The material must meet New York State Department of Transportation (NYSDOT) shipping requirements (truck and/or rail).

Excavated materials will be screened by a radiation technician using a 2x2 NaI detector in an effort to locate source material(s) present. Source materials could include discrete artifacts or dispersed radiologically impacted materials (i.e., soil, soil-like materials, and debris). The detector will be configured to provide annunciation for any material containing an elevated radioactivity level. Initially, the alarm level will be set at three times the background level of radioactivity, but this trigger level may be adjusted upward (or downward) based on field experience relating detector response and the outcome of subsequent evaluations of the materials causing such detector response.

Artifacts found to exhibit on-contact readings exceeding 30,000 cpm above the background level of radioactivity will be segregated and handled as LLRW. Such artifacts will be placed in suitable containers (e.g., drums, boxes); the final disposition of containers filled with radioactive artifacts will be determined based on the concentrations of radionuclides present in the containers and the specific waste acceptance criteria for permitted off-site facilities.

Soil, soil-like materials, and debris found by field screening to exceed a predetermined NaI detector cpm threshold will be segregated from other waste materials; subsequent handling requirements will be determined based on the outcome of further testing.

Any solid materials which are determined to be non-conforming will be staged (may be overpacked or bulked), sampled, and analyzed for the purpose of waste characterization. Liquids, if present, will be segregated staged, sampled for compatibility, consolidated, and sampled and analyzed for the purpose of waste characterization.

3.0 ANALYTICAL RESULTS

This paragraph applies to drums that do not exceed 30,000 cpm above background. Samples of the impacted soil and organic waste were collected on June 15, 1999. The samples were analyzed for full RCRA characterization, including toxicity, reactivity, ignitability, corrosivity, PCBs, and dioxins/furans. The results demonstrated that the material is not RCRA hazardous by characteristics or a TSCA-regulated waste. Based on the data and historical information, the material has been characterized as non-hazardous under RCRA. This information has been used to profile the material for off-Site disposal in an appropriate landfill.

The 100% Design Report required that when radionuclide concentrations were used to determine if material is to be removed from the Site, soil samples were to be analyzed by

gamma spectroscopy until such time as the NaI detector threshold value for soil, soil-like material and debris is derived. During the RA construction, no radioactive materials, other than one discrete dial, was removed from the Site. Also, no elevated numbers were obtained to derive the threshold values.

Thus, such threshold values were not derived. Based on the limited exposure that may occur during an O&M activity that may expose Site wastes, derivation of such threshold levels will not be performed for O&M activities.

The 100% Design Report required that if gamma spectroscopy analyses showed other radionuclides contributing significantly to radioactivity levels, the Committee would work with NYSDEC to develop target activity concentrations for those additional radionuclides using similar dose assessment and exposure assumptions as NYSDEC applied in developing the values listed above. While a few natural radionuclides were detected, no other manmade radionuclides were detected. Thus, performance of the above was not necessary during RA construction and will not be performed for O&M activities.

4.0 SUMMARY OF WASTE HANDLING PROCEDURES

Any intact drums will be excavated from the former landfill and transported to a centralized staging area. The drums will be surveyed for radioactivity prior to opening. Where the 2x2 NaI detector gives an on-contact reading exceeding 30,000 cpm above background, the drum will be handled on-Site as LLRW. The drums that do not exceed the screening level will be visually inspected. Drums determined to be conforming may be added to the bulk shipments.

Drums initially determined to be non-conforming will be sampled and analyzed individually for compatibility. Composite samples of compatible drums (up to ten drums) will be prepared and analyzed for waste characterization parameters. Drums which are proven by analysis to be conforming will be added to the bulk shipments. Drums deemed to be non-conforming will be staged separately and waste profile sheets completed for proper off-Site disposal.

i) Conforming Waste

The impacted soil/drummed material have been previously profiled and submitted to TSD facilities for approval. The material (conforming waste) shall be classified as a non-hazardous waste under RCRA, and will be disposed of in an appropriate permitted landfill. The waste profile will include both soil and

debris/drum material, so no segregation of the materials in the bulk shipments is necessary.

ii) Low-Level Radioactive Waste

Low-level radioactive waste will be segregated, staged, and sampled. The final disposition of each drum will be based on the concentration of radionuclides present in the drum and the waste acceptance criteria for permitted off-Site facilities.

iii) Non-Conforming Solid Waste

Non-conforming solid waste will be segregated, staged, sampled and compatibility, consolidated, and sampled and analyzed for waste characterization to determine appropriate treatment/disposal.

iv) Liquids

Liquids, if present, will be segregated, staged, sampled for compatibility, consolidated, and sampled and analyzed for waste characterization to determine appropriate treatment/disposal. Where possible, aqueous-based liquids will be treated at the on-site water treatment facility.

18. This is a Nonhazardous waste.
19. If this waste is subject to any California list restrictions enter the letter from below (either A, B.1 or B.2) next to each restriction that is applicable:
 ___ HOCs, ___ PCBs, ___ Acid, ___ Metals, ___ Cyanides
20. Identify ALL Characteristic and Listed USEPA hazardous waste numbers that apply (as defined by 40 CFR 261). For each waste number, identify the subcategory (as applicable, check none, or write in the description from 40 CFR 268.41, 268.42, and 268.43).

REF	A. US EPA HAZARDOUS WASTE CODE(S)	B. SUBCATEGORY Enter the subcategory description. If not applicable, simply check none	C. APPLICABLE TREATMENT STANDARDS		D. HOW MUST THE WASTE BE MANAGED? Enter letter from below
			PERFORMANCE-BASED: Check as applicable:	SPECIFIED TECHNOLOGY: If applicable enter the 40 CFR 268.42 table 1 treatment code(s)	
0			NONE: 268.41(a) | 268.43(a)	268.42	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Management under the land disposal restrictions:

- A. RESTRICTED WASTE REQUIRES TREATMENT
 - B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
 - B.2 RESTRICTED WASTES FOR WHICH THE TREATMENT STANDARD IS EXPRESSED AS A SPECIFIED TECHNOLOGY (AND THE WASTE HAS BEEN TREATED BY THAT TECHNOLOGY)
 - B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
- C. RESTRICTED WASTE SUBJECT TO A VARIANCE
- D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
- E. NOT CURRENTLY SUBJECT TO LAND DISPOSAL RESTRICTIONS

21. Is this waste a soil or debris? No: Yes, Soil: Yes, Debris:

22. Specific Gravity Range: _____ to _____

23. Indicate the range of each: _____ Units _____

Cyanides: None to _____ Type (free, total, amenable, etc.) _____

Cyanides: None to _____ Type (free, total, amenable, etc.) _____

Sulfides: None to _____ Type _____

Optional Phenolics: None to _____

24. Identify the waste color BROWN, DOT physical state Solid, and physical appearance SOIL

25. COMPLETE ONLY FOR WASTES INTENDED FOR FUELS OR INCINERATION

	TOTAL	
Beryllium as Be	_____	ppm
Potassium as K	_____	ppm
Sodium as Na	_____	ppm
Bromine as Br	_____	%
Chlorine as Cl	_____	%
Fluorine as F	_____	%
Sulfur as S	_____	%

26. RECLAMATION, FUELS OR INCINERATION PARAMETERS (Provide if information is available)

	RANGE
A. Heat Value (Btu/lb):	_____ - _____
B. Water:	_____
C. Viscosity (cps):	_____ @ _____ F _ 100 F _ 150 F
D. Ash:	_____ %
E. Settleable solids:	_____ %
F. Vapor Pressure @ STP (mm/Hg):	_____
G. Is this waste a pumpable liquid? Yes _ No _	
H. Can this waste be heated to improve flow? Yes _ No _	
I. Is this waste soluble in water? Yes _ No _	
J. Particle size: Will the solid portion of this waste pass through a 1/8 inch screen? Yes _ No _	

27. TRANSPORTATION INFORMATION

- A. Is this a DOT Hazardous Material? Yes _ No
- B. Proper Shipping Name. : NON-REGULATED MATERIAL
- and Additional Description if required: _____
- DOT Regulations: _____ Hazard Class: _____ I.D. _____ Packing Group: _____
- D. CERCLA Reportable Quantity (RQ) and units (Lb, Kg): _____
- E. Non-Bulk code _____ Bulk code _____
- F. Special Provisions _____
- G. Labels Required _____

28. SPECIAL HANDLING INFORMATION

BASED ON MATERIAL PREVIOUSLY REMOVED. MATERIAL MAY SHOW TRACE RADIOACTIVITY (0-20 MICRORONTGENS). EACH LOAD WILL BE SCREEN WITH A GEIGER COUNTER AT THE GENERATOR'S SITE. LOADS WITH ABOVE BACK GROUND RADIATION WILL REQUIRE REVIEW AND APPROVAL BY DEC/NYS HEALTH DEPT.

Material Safety Data Sheets Attached

29. OTHER INFORMATION

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Profile #
NDC C02178

D. CHEMICAL WASTE MANAGEMENT CERTIFICATION

Chemical Waste Management, Inc. has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

2. OTHER HAZARDOUS CONSTITUENTS Indicate if the waste contains any of the following.

ORGANICS	TCLP Information: Check only ONE for each constituent:			Waste No.	TCLP Analytical Test Results Use units: ppm or mg/l	TCA or TOTAL Use units: ppm, mg/l or %
	Less Than	Regulated Level	Equal or More			
Benzene	X	0.5 mg/l		D018		
Carbon Tetrachloride	X	0.5 mg/l		D019		
Chlordane	X	0.03 mg/l		D020		
Chlorobenzene	X	100.0 mg/l		D021		
Chloroform	X	6.0 mg/l		D022		
m-Cresol	X	200 mg/l		D024		
o-Cresol	X	200.0 mg/l		D023		
p-Cresol	X	200.0 mg/l		D025		
Cresol	X	200.0 mg/l		D026		
2,4-D	X	10.0 mg/l		D016		
1,4 Dichlorobenzene	X	7.5 mg/l		D027		
1,2-Dichloroethane	X	0.5 mg/l		D028		
1,1-Dichloroethylene	X	0.7 mg/l		D029		
2,4-Dinitrotoluene	X	0.13 mg/l		D030		
Endrin	X	.02 mg/l		D012		
Heptachlor, & Hydroxide	X	0.008 mg/l		D031		
Hexachloro-1,3 Butadiene	X	0.5 mg/l		D033		
Hexachlorobenzene	X	0.13 mg/l		D032		
Hexachlorocyclopentadiene	X	3.0 mg/l		D034		
Lindane	X	0.4 mg/l		D011		
Methoxychlor	X	10.0 mg/l		D014		
Methyl Ethyl Ketone	X	200.0 mg/l		D035		
Nitrobenzene	X	2.0 mg/l		D036		
Pentachlorophenol	X	100.0 mg/l		D037		
Pyridine	X	5.0 mg/l		D038		
Tetrachloroethylene	X	0.7 mg/l		D039		
Toxaphene	X	0.5 mg/l		D015		
2,4,5-TP Silvex	X	1.0 mg/l		D017		
Trichloroethylene	X	0.5 mg/l		D040		
2,4,5-Trichlorophenol	X	100.0 mg/l		D041		
2,4,6-Trichlorophenol	X	2.0 mg/l		D042		
Vinyl Chloride	X	0.2 mg/l		D043		

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Profile #
DOC C02378

ATTACHMENT 2

PHYSICAL COMPOSITION: Additional constituents NOT included on page 1 of the Waste Profile
constituents

Constituents	Range	Unit Description
SE	0 to	12 PPM
LOW-TRI CHEMICALS	to	
DIOXINS/FURANS	0.1 to	85 PPM
3,4-METHYL PHTHAL	0 to	3300 PPM
1,3,7,8-TCDF	0 to	0.18 MG/KG

TABLE C3.1

CONSTITUENTS OF CONCERN
 OPERATION AND MAINTENANCE ACTIVITIES
 PFOHL BROTHERS LANDFILL
 CHEEKTOWAGA, NEW YORK

<i>Volatile Organics</i>	<i>Base Neutral and Acids</i>		<i>Pesticides and PCBs</i>	<i>Inorganics</i>	<i>Radioactive Compounds (1)</i>
Methylene Chloride	Phenol	Diethylphthalate	Beta-BHC	Aluminum	Radium 226
Toluene	1,3-Dichlorobenzene	Phenanthrene*	Aldrin	Arsenic	Thorium 228
Chlorobenzene	1,4-Dichlorobenzene	Anthracene	Endosulfan	Barium	Thorium 232
Ethylbenzene	1,2-Dichlorobenzene	Di-n-Butylphthalate	Dieldrin	Beryllium	Uranium 238
Total Xylenes	2-Methylphenol	Fluoranthene**	Endrin	Cadmium	
1,1-Dichloroethane	4-Methylphenol*	Pyrene*	DDD	Chromium	
1,1,1-Trichloroethane	2,4-Dimethylphenol	Benzo (a) Anthracene	PCB***	Cobalt	
1,1-Dichloroethylene	Acenaphthylene	Bis (2-ethylhexyl) Phthalate		Copper	
Chloroethane	Dibenzofuran*	Chrysene		lead	
Trans 1,2-Dichloroethylene	2-Chlorophenol	Benzo(b) Fluoranthene**		Cyanide	
		Benzo (1) Pyrene**		Manganese	
		Indeno (1,2,3-cd) Pyrene**		Mercury	
		Benzo (g,h,i) Perylene*		Nickel	
		Dioxins/Furans		Silver	
				Vanadium	
				Zinc	

Notes:

* Lacks chronic toxicity data (USEPA, 1986a).

** Carcinogenic polynuclear aromatic hydrocarbons (PAHs) for which the potency factor for Benzo (a) Pyrene applies.

*** Potency factor for polychlorinated biphenyls (PCBs) applies to sum of Aroclors.

(1) Compounds detected above background in soil/water.

TABLE C3.2
EXPOSURE ROUTES AND EXPOSURE LEVELS FOR
THE CONSTITUENTS OF CONCERN
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK

<i>Chemical Compound</i>	<i>Ionization Potential</i>	<i>Exposure Routes</i>	<i>Acceptable Exposure Levels in Air</i>
Aluminum	NA	Inhalation, Ingestion	10 mg/m ³ (1) 15 mg/m ³ (2)
Arsenic	NA	Inhalation, Ingestion, Human Carcinogen	0.01 mg/m ³ (1) (2) 5 mg/m ³ (3)
Barium	NA	Inhalation, Ingestion	0.5 mg/m ³ (1) (2) 50 mg/m ³ (3)
Beryllium	NA	Inhalation, Ingestion, Human Carcinogen	0.002 mg/m ³ (1) (2) 4 mg/m ³ (3)
Cadmium	NA	Inhalation, Ingestion, Suspected Human Carcinogen	0.01 mg/m ³ (1) 0.005 mg/m ³ (2) 9 mg/m ³ (3)
Chromium	NA	Inhalation, Ingestion	0.5 mg/m ³ (1) (2) 250 mg/m ³ (3)
Cobalt	NA	Inhalation, Ingestion, Animal Carcinogen	0.02 mg/m ³ (1) 0.1 mg/m ³ (2) 20 mg/m ³ (3)
Copper	NA	Inhalation, Ingestion	1 mg/m ³ (1)(2) 100 mg/m ³ (3)
Lead	NA	Inhalation, Ingestion, Animal Carcinogen	0.05 mg/m ³ (1) (2) 100 mg/m ³ (3)
Cyanide	NA	Inhalation, Ingestion	NE
Manganese	NA	Inhalation, Ingestion	0.2 mg/m ³ (1) 5 mg/m ³ (4) 500 mg/m ³ (3)
Mercury	NA	Inhalation, Ingestion, Skin Absorption	0.025 mg/m ³ (1) 0.1 mg/m ³ (4) 10 mg/m ³ (3)

TABLE C3.2

**EXPOSURE ROUTES AND EXPOSURE LEVELS FOR
THE CONSTITUENTS OF CONCERN
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK**

<i>Chemical Compound</i>	<i>Ionization Potential</i>	<i>Exposure Routes</i>	<i>Acceptable Exposure Levels in Air</i>
Nickel	NA	Inhalation, Ingestion	1.5 mg/ m ³ (1) 1 mg/m ³ (2) 10 mg/m ³ (3)
Silver	NA	Inhalation, Ingestion	0.1 mg/m ³ (1) 0.01 mg/m ³ (2) 10 mg/m ³ (3)
Vanadium	NA	Inhalation, Ingestion	0.05 mg/ m ³ (1) 0.5 mg/m ³ (4) 35 mg/m ³ (3)
Zinc	NA	Inhalation, Ingestion	10 mg/m ³ (1) 15 mg/m ³ (2) 500 mg/m ³ (3)
Beta-BHC	NA	Inhalation, Ingestion	NE
Aldrin	NA	Inhalation, Ingestion, Skin Absorption, Animal Carcinogen	0.25 mg/m ³ (1)(2) 25 mg/m ³ (3)
Endosulfan	NA	Inhalation, Ingestion, Skin Absorption	0.1 mg/m ³ (1)
Dieldrin	NA	Inhalation, Ingestion, Skin Absorption	0.25 mg/m ³ (1)(2) 50 mg/m ³ (3)
Endrin	NA	Inhalation, Ingestion, Skin Absorption	0.1 mg/m ³ (1)(2) 2 mg/m ³ (3)
PCBs (Aroclors)	NA	Inhalation, Ingestion, Suspected Human Carcinogen	0.5 mg/m ³ (1)(2) 5 mg/m ³ (3)
DDD	NA	Inhalation, Ingestion	NE
Acenaphthylene	7.5 - 8.5 eV	Inhalation, Ingestion	0.2 mg/m ³ (5)
Anthracene	7.23 eV	Inhalation, Ingestion	0.2 mg/m ³ (5)
Benzo (a) Anthracene	7.53 eV	Inhalation, Ingestion	0.2 mg/m ³ (5)
Benzo (b) Fluoranthene	7.5 - 8.5 eV	Inhalation, Ingestion	0.2 mg/m ³ (5)
Benzo (l) Pyrene	7.5 - 8.5 eV	Inhalation, Ingestion	0.2 mg/m ³ (5)

TABLE C3.2

**EXPOSURE ROUTES AND EXPOSURE LEVELS FOR
THE CONSTITUENTS OF CONCERN
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK**

<i>Chemical Compound</i>	<i>Ionization Potential</i>	<i>Exposure Routes</i>	<i>Acceptable Exposure Levels in Air</i>
Benzo (g,h,i) Perylene	7.5 – 8.5 eV	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Bis (2-ethylhexyl) Phthalate	NA	Inhalation, Ingestion	NE
Chlorobenzene	9.1 eV	Inhalation, Ingestion	10 ppm ⁽¹⁾ 75 ppm ⁽²⁾ 1000 ppm ⁽³⁾
Chloroethane	11.0	Inhalation, Ingestion, Skin Absorption	100 ppm ⁽¹⁾ 1000 ppm ⁽²⁾ 3,800 ppm ⁽³⁾
Chloroform	11.4 eV	Inhalation, Ingestion	10 ppm ⁽¹⁾ 50 ppm ⁽⁴⁾ 500 ppm ⁽³⁾
2-Chlorophenol	NA	Inhalation, Ingestion	NE
Chrysene	7.75 eV	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Dibenzofuran	NA	Inhalation, Ingestion	NE
1,3-Dichlorobenzene	9.12 eV	Inhalation, Ingestion	NE
1,4-Dichlorobenzene	8.98 eV	Inhalation, Ingestion	10 ppm ⁽¹⁾ 75 ppm ⁽²⁾ 150 ppm ⁽³⁾
1,2-Dichlorobenzene	9.06 eV	Inhalation, Ingestion	25 ppm ⁽¹⁾ 50 ppm ⁽⁴⁾ 200 ppm ⁽³⁾
1,1-Dichloroethane	11.1 eV	Inhalation, Ingestion	100 ppm ⁽¹⁾ 100 ppm ⁽²⁾ 3,000 ppm ⁽³⁾
1,1-Dichloroethylene	10.0 eV	Inhalation, Ingestion	5 ppm ⁽¹⁾
trans 1,2-Dichloroethylene	9.65 eV	Inhalation, Ingestion	200 ppm ⁽¹⁾⁽²⁾ 1,000 ppm ⁽³⁾
Diethylphthalate	NA	Inhalation, Ingestion	5 mg/m ³ ⁽¹⁾
2,4-Dimethylphenol	NA	Inhalation, Ingestion	NE

TABLE C3.2
EXPOSURE ROUTES AND EXPOSURE LEVELS FOR
THE CONSTITUENTS OF CONCERN
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK

<i>Chemical Compound</i>	<i>Ionization Potential</i>	<i>Exposure Routes</i>	<i>Acceptable Exposure Levels in Air</i>
Dioxins/Furans	NA	Inhalation, Ingestion	ALARA
Di-n-Butylphthalate	NA	Inhalation, Ingestion	NE
Ethylbenzene	8.8 eV	Inhalation, Ingestion	100 ppm ^{(1) (2)} 800 ppm ⁽³⁾
Fluoranthene	NA	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Indeno (1,2,3-cd) Pyrene	7.5 – 8.5 eV	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Methylene Chloride	11.3 eV	Inhalation, Ingestion	50 ppm ⁽¹⁾ 25 ppm ⁽²⁾ 2,300 ppm ⁽³⁾
2&4-Methylphenol	8.98 eV	Inhalation, Ingestion	5 ppm ⁽¹⁾⁽²⁾ 250 ppm ⁽³⁾
Phenanthrene	7.8 eV	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Phenol	8.5 eV	Inhalation, Ingestion, Skin Absorption	5 ppm ^{(1) (2)} 250 ppm ⁽³⁾
Pyrene	7.72 eV	Inhalation, Ingestion	0.2 mg/m ³ ⁽⁵⁾
Toluene	8.8 eV	Inhalation, Ingestion, Skin Absorption	50 ppm ⁽¹⁾ 200 ppm ⁽²⁾ 500 ppm ⁽³⁾
Xylene	8.56 eV	Inhalation, Ingestion	100 ppm ^{(1) (2)} 900 ppm ⁽³⁾

Notes:

- (1) 2002 Values, American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs).
(2) Federal Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL).
(3) Immediately Dangerous to Life and Health (IDLH).
(4) Federal OSHA 15 minute ceiling standard.
(5) No PEL has been established for this chemical. The PEL for coal tar pitch volatiles (benzene soluble fraction) will be used as a guideline.

ALARA As Low As Reasonably Achievable
mg/m³ Milligrams per Cubic Meter.
NA Not Applicable.
NE Not Established.
µg/m³ Micrograms per Cubic Meter.

**TABLE C5.1
 SPECIFIC PERSONAL PROTECTION LEVELS
 OPERATION AND MAINTENANCE ACTIVITIES
 PFOHL BROTHERS LANDFILL
 CHEEKTOWAGA, NEW YORK**

<i>Work Task</i>	<i>Maximum Protection Level (1)</i>	<i>Alternate Protection Level (2)</i>
Mobilization and Demobilization of Labor, Materials, and Equipment To and From the Site	Level D	
Surveying Activities		
i) Pre-Excavation Surveying	Level D	
ii) Waste Material Excavation and Handling	Level C	Modified Level D
iii) Gas Venting Layer	Modified D	Level D
iv) Imported Clean Soil and Landfill Cap Areas	Level D	
Repair/Maintenance of a Perimeter Barrier Containment System	Level B (3) or C	Modified Level D
Groundwater, Surface Water, and Sediment Monitoring Activities Including Water Level Measuring, Pump Testing and Sampling Activities	Modified Level D	Level D
Maintenance of Areas from which Waste has been Excavated with Clean Imported Soil	Level D	
Inspection and Maintenance of the Site Cap, Site Vegetation and Wetlands Area	Level D	
Operation and Maintenance of the Groundwater Collection System	Level C, or Modified D	Level D

TABLE C5.1
SPECIFIC PERSONAL PROTECTION LEVELS
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK

Management of Surface Water	Modified D	Level D
Decontamination Activities	Level C	Modified Level D

Notes:

Specific requirements of protection levels are detailed in Section 5.1.

- (1) **Level C:** To be worn when the criterion for using air-purifying respirators (APRs) are met and a lesser of skin protection is needed.
Modified Level D: To be worn when dermal protection is required, however, no respiratory hazards are present. It provides minimal protection against chemical hazards.
- (2) Alternate protection levels will be used if monitoring indicates that conditions are appropriate or the HSO or Project Coordinator agree that there is a reduced potential for exposure.
- (3) May require upgrade in protection level of additional personal protection equipment based on job task (see Confined Space Entry Permit) or results of air monitoring during performance of a particular activity.

TABLE C8.1
AIR MONITORING AND AIR MONITORING ACTION LEVELS
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK

<i>Monitoring Device</i>	<i>Action Level</i>	<i>Action</i>
Combustible Gas Indicator	>1% LEL for confined space 10 - 20% LEL for non-confined spaces	Limit ignition sources work with caution be prepared to cease operations
	>20% LEL for non confined spaces >10% LEL for confined spaces	Cease operations and move to a safe place. Notify HSO do not continue working until conditions are constantly below 20% LEL
Oxygen Meter <19.5% or >23.5%		Cease operations and move to a safe area and notify HSO. Do not continue working until oxygen levels are between 19.5% and 23.5%. Note: When oxygen levels are outside this range %LEL readings are not reliable.
Particulate Monitor	<150 µg/m ³ at the downwind Site perimeter	Continue operations
	>150 µg/m ³ at the downward Site perimeter	Temporarily halt work activities and implement engineering controls until levels are maintained below 150 µg/m ³
Photoionization Detector	Background Readings	Continue work in Level D PPE
	1 - 5 ppm	Half or full-face air purifying respirator Level C PPE
	5 - 50 ppm	Supplied air respirator Level B PPE
	>50 ppm	Shut down activities Notify HSO Implement additional engineering controls

TABLE C11.1
EMERGENCY TELEPHONE NUMBERS
OPERATION AND MAINTENANCE ACTIVITIES
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK

General Emergency	911
HyView Fire Department	911
Cheektowaga Police Department	911
Poison Control Center	(800) 962-1253
USEPA National Response Center	(800) 424-8802
New York State Emergency Response Commission	(518) 457-4107
Hospital (St. Josephs Intercommunity)	(716) 891-2450
Hospital (Millard Fillmore Suburban)	(716) 636-6550
NYSDEC (Albany)	(800) 457-7362
NYSDEC (Buffalo)	(716) 851-7220
NYSDOH (Buffalo)	(716) 847-4500
Erie County DOH	(716) 881-4052
Cheektowaga Disaster Services	HyView Fire Department will notify
State Police	(716) 655-3113

ATTACHMENT A
DAILY SAFETY MEETING LOG

ATTACHMENT B

TRAINING ACKNOWLEDGMENT FORM

TRAINING ACKNOWLEDGEMENT FORM

Please Print:

NAME: _____

ADDRESS: _____

SOCIAL SECURITY NUMBER: _____

EMPLOYER: _____

JOB SITE: Pfohl Brothers Landfill Site
Cheektowaga, New York

I have attended and understood the mandatory Site-specific initiation session for the above referenced job site. This program referenced the following topics:

- i) known potential hazards on-Site;
- ii) level of personal protection equipment required;
- iii) emergency procedures for the Site; and
- iv) the basics of the Site-specific Health and Safety Plan.

(Date)

(Signature)

For Exclusion Zone Workers:

I further confirm that I have the required 40 hours of training to comply with 29 CFR 1910.120, have a respirator for which I have been fit tested and have been thoroughly trained on the standard operating procedures of equipment I will be operating or procedures (e.g., confined space) which I will be participating in.

(Date)

(Signature)

APPENDIX D

QUALITY ASSURANCE PROJECT PLAN

**APPENDIX D
QUALITY ASSURANCE PROJECT PLAN
REMEDIAL ACTION O&M ACTIVITIES**

**PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

JULY 2002

REF. NO. 1979 (36) APPD

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1.0 INTRODUCTION

This document is Site-specific and has been prepared for the Town of Cheektowaga (Town) by the Pfohl Brothers Landfill Site Steering Committee (Steering Committee) for sampling activities as part of the long-term operation and maintenance (O&M) of the constructed Remedial Action (RA) at the Pfohl Brothers Landfill Site (Site) located in Cheektowaga, New York. It has been prepared in accordance with the United States Environmental Protection Agency's (USEPA's) document entitled, "Region II CERCLA Quality Assurance Manual", Revision 1, USEPA Region II, dated October 1989. Prior to deviation from the protocols outlined herein, the New York State Department of Environmental Conservation (NYSDEC) Quality Assurance/Quality Control (QA/QC) representative for the O&M activities will be notified.

The objectives of this Quality Assurance Project Plan (QAPP) are to provide sufficiently thorough and concise descriptions of the measures to be applied during the O&M activities such that the data generated will be of a known and acceptable level of precision and accuracy. This QAPP provides comprehensive information regarding the project personnel responsibilities, and sets forth specific procedures to be used during sampling of relevant environmental matrices and analyses of data.

The following QA topics are addressed in this Plan:

- i) data quality objectives (DQOs) for measurement of data, including precision, accuracy, completeness, representativeness, and comparability;
- ii) project organization and responsibility;
- iii) sampling procedures;
- iv) sample custody;
- v) analytical procedures;
- vi) calibration procedures, references and frequency;
- vii) internal QC checks and frequency;
- viii) QA performance audits, system audits, and frequency;
- ix) QA reports to management;
- x) preventative maintenance procedures and scheduling;
- xi) specific procedures to be used to routinely assess data precision, representativeness, comparability, accuracy, and completeness;
- xii) data validation; and
- xiii) corrective action.

2.0 PROJECT DESCRIPTION

The sampling activities that will be conducted during the long-term O&M activities are as follows:

- i) groundwater sampling during operation and maintenance activities;
- ii) surface water sampling; and
- iii) sampling in accordance with Buffalo Sewer Authority (BSA) requirement for the extracted groundwater discharged to the sanitary sewer system.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The O&M activities will be conducted by a the Town and/or a Engineer/Contractor (hereinafter referred to as Engineer) retained by the Town. The project management structure for QA/QC activities associated with the O&M is discussed below along with a brief description of the duties of the key personnel.

Town of Cheektowaga

The Town will be responsible for overseeing the project and ensuring that all aspects of the Administrative Order on Consent (Order) and associated administrative functions are fulfilled during the performance of the O&M activities. The Town will provide a Project Coordinator and will retain the services of an Engineering firm (Engineer) and/or Contractor to implement those O&M activities which the Town will not perform directly.

Town's Project Coordinator

- i) provides overall project coordination;
- ii) participate in key technical negotiations with the NYSDEC;
- iii) responsible for all communication between the Steering Committee, Town, and the NYSDEC;
- iv) address access and permitting issues;
- v) provide data reporting and submittal of reports as specified in the O&M Plan; and
- vi) performs schedule and budget tracking and approves all Engineer invoices.

Engineer's Project Manager

- i) reports to the Town's Project Coordinator
- ii) provides overall project management;
- iii) ensures professional services by the Engineer are cost effective and of highest quality;
- iv) ensures all resources of the Engineer are available on an as-required basis;
- v) participates in key technical negotiations with NYSDEC;
- vi) prepare and/or review all reports prior to submittal to the NYSDEC; and
- vii) provides managerial and technical guidance to the Site Engineer.

Site Engineer

- i) provides day-to-day project management;
- ii) provides managerial guidance to the Engineer's technical group;
- iii) acts as liaison with NYSDEC, Town, and the Steering Committee as appropriate;
- iv) prepares and reviews reports;
- v) conducts preliminary chemical data interpretation and assessment;
- vi) conducts field audits; and
- vii) responsible for overall O&M activity completion in accordance with the approved O&M Plan.

QA/QC Officer - Analytical and Field Activities

- i) oversees and reviews laboratory activities;
- ii) determines laboratory data corrective action;
- iii) performs analytical data validation and assessment;
- iv) reviews laboratory QA/QC;
- v) assists in preparation and review of final report;
- vi) provides technical representation for field and analytical activities;
- vii) provides field management of sample collection and field QA/QC; and
- viii) the individual designated to be the QA/QC Officer will be submitted prior to the start of O&M activities.

Laboratory - Project Manager, Analytical Contractor

- i) ensures resources of laboratory are available on an as-required basis;
- ii) coordinates laboratory analyses;
- iii) supervises laboratory's in-house chain of custody;
- iv) schedules analyses of samples;
- v) oversees review of data;
- vi) oversees preparation of analytical reports; and
- vii) approves final analytical reports.

Laboratory - Quality Assurance/Quality Control Officer, Analytical Contractor

- i) overviews laboratory QA/QC;
- ii) overviews QA/QC documentation;
- iii) conducts detailed data review;
- iv) decides laboratory corrective actions, if required; and
- v) provides technical representation for laboratory QA/QC procedures.

Laboratory - Sample Custodian - Analytical Contractor

- i) receives and inspects the sample containers;
- ii) records the condition of the sample containers;
- iii) signs appropriate documents;
- iv) verifies chain of custody and their correctness;
- v) notifies laboratory Project Manager and laboratory QA/QC Officer of sample receipt and inspection;
- vi) assigns a unique laboratory identification number correlated to the field sample identification number, and enters each into the sample receiving log;
- vii) initiates transfer of samples to the appropriate lab sections with assistance from the laboratory Project Manager; and
- viii) controls and monitors access to and storage of samples and extracts.

The analytical laboratory chosen to perform the analyses will be certified by the New York State Department of Health (NYSDOH) through the environmental laboratory approval program for the appropriate categories of analysis. The name of the analytical laboratory will be submitted to NYSDEC for review and approval prior to use of the laboratory for the O&M activities.

4.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

The overall QA objective is to develop and implement procedures for field sampling; sample preparation and handling; sample Chain of Custody; and laboratory analyses and reporting, which will provide accurate data.

The purpose of this Section is to define the QA goals required to meet the Data Quality Objectives (DQOs) of the O&M activities. QA goals for accuracy, precision and sensitivity of analyses; and completeness, representativeness, and comparability of measurement data are established in the following sections.

The sampling and analysis program is summarized in Table D4.1, which lists the analytical parameters, analytical methods, and frequency of sample collection and QC sample submission. The analytical methods were selected to meet the DQOs for each sampling activity.

4.1 LABORATORY QUALITY ASSURANCE

4.1.1 ACCURACY, PRECISION, AND SENSITIVITY OF ANALYSES

The fundamental QA objective with respect to the accuracy, precision and sensitivity of analytical data is to achieve the QC acceptance criteria of each analytical protocol. Analytical methods and targeted detection limits have been specified to meet the objectives of each sampling activity as follows:

- i) NYSDEC ambient water quality standards were used to select the appropriate analytical methods and targeted detection limits for groundwater samples (Class GA), surface water samples (Class B), and groundwater discharge samples (limits to be determined by Town and BSA).
- ii) For the radiochemistry analysis of the groundwater discharge to the sanitary sewer system, 6 NYCRR Part 380 Table 3 was used to establish the required monitoring levels for both soluble and insoluble fractions.

A summary of the targeted detection limits is provided in Table D4.2.

The method accuracy (percent recovery) for water samples will be determined by spiking selected samples (matrix spikes) with all spiking compounds specified in the analytical methods. Accuracy will be reported as the percent recovery of the spiking

compound(s) and will compare with the criteria given in the appropriate methods, as identified in Section 8.0.

The method(s) precision (reproducibility between duplicate analyses) will be determined from the duplicate analysis of matrix spike samples for organic parameters and duplicate sample analyses for inorganic parameters. Precision will be reported as RPDs between duplicate analyses; acceptance criteria will be as specified in the appropriate methods identified in Section 8.0.

4.1.2 COMPLETENESS, REPRESENTATIVENESS, AND COMPARABILITY

A completeness requirement of 90 percent will be targeted for the O&M activities (see Section 13.1.3 for definition of completeness).

The quantity of samples to be collected has been determined in an effort to effectively represent the population being studied.

Analytical methods used for this study are consistent with those used for previous studies to assure comparability of the data. All standards used by the laboratory will be traceable to reliable sources.

4.2 FIELD MEASUREMENT QUALITY ASSURANCE

Measurement data will be generated during field activities. These activities include, but are not limited to, the following:

- i) documenting time and weather conditions;
- ii) determining pH, specific conductivity, turbidity, and temperature of water samples;
- iii) determining depths in a well;
- iv) verifying well development and pre-sampling purge volumes;
- v) observation of sample appearance and other conditions; and
- vi) measuring groundwater elevations in wells, manholes, and wet wells.

The general QA objective for measurement data is to obtain reproducible and comparable measurements to a degree of accuracy consistent with the use of standardized procedures.

5.0 SAMPLING PROCEDURES

Samples will be collected in accordance with procedures outlined in the O&M Plan developed for the Site.

The sample container, preservative, shipping and packaging requirements are identified in Table D5.1.

6.0 SAMPLE CUSTODY AND DOCUMENT CONTROL

The following documentation procedures will be used during sampling and analysis to provide Chain of Custody control during transfer of samples from collection through storage. Recordkeeping documentation will include use of the following:

- field log book (bound with numbered pages) to document sampling activities in the field;
- labels to identify individual samples;
- Chain of Custody record sheet to document analyses to be performed; and
- laboratory sample custody log book.

6.1 FIELD LOG BOOK

In the field, the sampler will record the following information in the field log book (bound) for each sample collected:

- project number;
- sample matrix;
- name of sampler;
- sample source;
- time and date;
- pertinent data (i.e., depth, water surface elevation, pumping method);
- analysis to be conducted;
- sampling method (i.e., pump type)
- appearance of each sample (i.e., color, turbidity, evidence of soil staining);
- preservative added, if any;
- number of sample bottles collected;
- analyses performed in the field (temperature, pH, specific conductance); and
- pertinent weather data.

Each field log book page will be signed by the sampler.

A unique sample numbering system will be used to identify each collected sample. This system will provide a tracking number to allow retrieval and cross-referencing of sample information. The sample numbering system to be used is described as follows:

Example: G-041693 - AA-XXX
where: G - Designates sample type (G - Groundwater, S - Surface Water)
041693 - date of collection (mm,dd,yy)
AA - sampler initials
xxx - unique sample number

QC samples will also be numbered with a unique sample number.

6.2 CHAIN OF CUSTODY RECORDS

Chain of Custody forms will be completed for all samples collected during the O&M activities.

A Chain of Custody form will be completed to document the transfer of sample containers. Figure D6.1 illustrates a typical Chain of Custody form. Custody seals will be placed around each cooler. The cooler will then be sealed with packing tape. Sample container labels will include sample number, place of collection and date and time of collection. All samples will be refrigerated using wet ice at 4°C (+2°C) and delivered to the analytical laboratory within 24 to 48 hours of collection. All samples will be delivered to the laboratory by commercial courier or Engineer personnel. All samples will be iced at 4°C (+2°C) at the laboratory.

The Chain of Custody record, completed at the time of sampling, will contain, but not be limited to, the sample number, date and time of sampling, and the name of the sampler. The chain of custody document will be signed, timed, and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a Chain of Custody form. The Chain of Custody form will consist of four copies which will be distributed to the shipper, the receiving laboratory, and two copies to the Engineer. The shipper will maintain his copy while the other three copies will be enclosed in a waterproof envelope within the cooler with the samples. The sample number of each sample shipped will be recorded on the sheet. The cooler will then be sealed properly for shipment. The laboratory, upon receiving the samples, will complete the three remaining copies. The laboratory will maintain one copy for their records. One copy will be returned to the

Engineer upon receipt of the samples by the laboratory. One copy will be returned to the Engineer with the data deliverables package.

Upon receipt of the cooler at the laboratory, the shipping cooler and the custody seal will be inspected by the designated sample custodian. The condition of the cooler and the custody seal will be noted on the Chain of Custody record sheet by the sample custodian. The sample custodian will record the temperature of one sample (or temperature blank) from each cooler and the temperature will be noted on the Chain of Custody. If the shipping cooler seal is intact, the sample containers will be accepted for analyses. The sample custodian will document the date and time of receipt of the container, and sign the form.

If damage or discrepancies are noticed (including sample temperature exceedances), they will be recorded in the remarks column of the record sheet, dated and signed. Any damage or discrepancies will be reported to the lab supervisor who will inform the lab manager and QA Officer before samples are processed.

6.3 SAMPLE DOCUMENTATION IN THE LABORATORY

Each sample or group of samples shipped to the laboratory for analysis will be given a unique identification number. The laboratory Sample Custodian will record the client name, number of samples and date of receipt of samples in the Sample Control Log Book. The temperature of one sample/cooler will be measured and recorded on the Chain of Custody. Samples removed from storage for analyses will be documented in the Sample Control Log Book.

The laboratory will be responsible for maintaining analytical log books and laboratory data as well as a sample (on hand) inventory for submittal to the Engineer on an "as required" basis. Raw laboratory data produced from the analysis of samples submitted for this program will be inventoried and maintained by the laboratory for a period of five years at which time the Engineer will advise the laboratory regarding the need for additional storage.

6.4 STORAGE OF SAMPLES

After the Sample Custodian has completed the Chain of Custody forms and the incoming sample log, the Chain of Custody will be checked to ensure that all samples are stored in the appropriate locations. All samples will be stored within an access

controlled custody room and will be maintained at 4°C(+2°C) until all analytical work is complete.

6.5 SAMPLE DOCUMENTATION

Evidentiary files for the entire project shall be inventoried and maintained by the Engineer and shall consist of the following:

- i) project related plans;
- ii) project log books;
- iii) field data records;
- iv) sample identification documents;
- v) Chain of Custody records;
- vi) report notes, calculations, etc.;
- vii) lab data, etc.;
- viii) references, copies of pertinent literature;
- ix) miscellaneous - photos, maps, drawings, etc.; and
- x) copies of all final reports pertaining to the project.

The evidentiary file materials shall be the responsibility of the Project Coordinator with respect to maintenance and document removal.

7.0 CALIBRATION PROCEDURES AND FREQUENCY

7.1 INSTRUMENT CALIBRATION AND TUNING

Calibration of instrumentation is required to ensure that the analytical system is operating correctly and functioning at the proper sensitivity to meet established reporting limits. Each instrument is calibrated with standard solutions appropriate to the type of instrument and the linear range established for the analytical method. The frequency of calibration and the concentration of calibration standards is determined by the manufacturers guidelines, the analytical method, or the requirements of special contracts.

A bound notebook will be kept with each instrument requiring calibration in which will be recorded activities associated with QA monitoring and repairs program. These records will be checked during periodic equipment review and internal and external QA/QC audits.

7.1.1 GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)

It is necessary to establish that a given GC/MS meets the standard mass spectral abundance criteria prior to initiating any ongoing data collection. This is accomplished through the analyses of tuning compounds as specified in the analytical methods.

Calibration of the GC/MS system will be performed daily at the beginning of the day or with each 12 hours of instrument operating time.

All method-specified calibration criteria must be met prior to sample analyses. All calibrations must be performed using either average response factors or first-order linear regression (with a correlation coefficient requirement of 0.995). High order fits will not be allowed.

Quantification of samples that are analyzed by GC/MS will be performed by internal standard calibration. For quantification, the nearest internal standard free of interferences must be used.

7.1.2 GAS CHROMATOGRAPHY (GC)

Quantification for samples that are analyzed by GC with element selective detectors shall be performed by external standard calibration. Standards containing the compounds of interest will be analyzed at a minimum of three concentrations to establish the linear range of the detector. Single point calibration will be performed at the beginning of each day and at every tenth injection. The response factors from the single point calibration will be checked against the average response factors from multi-level calibration. If deviations in response factors are greater than those allowed by the analytical method protocols, then system recalibration will be performed. Alternatively, fresh calibration standards will be prepared and analyzed to verify instrument calibration.

All method-specified calibration criteria must be met prior to sample analyses. All calibrations must be performed using either average response factors or first-order linear regression (with a correlation coefficient requirement of 0.995). Higher order fits will not be allowed.

7.1.3 INSTRUMENTATION FOR INORGANIC/ RADIOCHEMISTRY ANALYSES

All method-specified calibration procedures will be performed and acceptance criteria will be met prior to sample analyses.

7.1.4 FIELD INSTRUMENTATION

Field equipment used during this investigation will be calibrated both prior to and following the day's surveys in accordance with the manufacturer's instructions. The equipment will also be operated in accordance with the manufacturer's instructions. Records of calibrations of field equipment will be recorded in a bound field notebook.

Field measurements of pH, temperature, turbidity, and specific conductance will be taken on groundwater samples. The pH meter will be checked against two known standard pH buffers (7 and 10) before and after each day's use. Temperature measurements will be made with a digital Celsius thermometer. The thermometer will be checked periodically against a precision thermometer certified by the National Institute of Standards and Technology. Conductivity readings will be made with a portable specific conductance meter. The meter will be calibrated against a 0.010 N

potassium chloride solution at least twice a day. Turbidity readings will be made with a nephelometer. The meter will be calibrated in a manner consistent with the manufacturer's guidelines and USEPA's standard methods.

7.2 STANDARD SOLUTION PREPARATION

Standards may be generally grouped into two classifications: primary and secondary. Primary standards are Certified Chemical Solutions (accompanied by a certificate of analysis). No testing of primary standards is necessary. Primary standards should not be used if there is any physical indication of contamination or decomposition (e.g., partially discolored) or if they are expired.

All other standards are considered secondary standards and should be examined when first received, or when first prepared from a pure chemical, by comparison to an existing standard.

7.3 RECORDS

A bound record book will be kept to document the preparation and source of each standard, and will include:

- i) name and date received;
- ii) source;
- iii) code or lot number;
- iv) purity of source material;
- v) preparation volumes and weights;
- vi) all concentration calculations;
- vii) special storage requirements;
- viii) storage location; and
- ix) expiration date.

These records will be checked periodically as part of the laboratory internal audit process.

8.0 ANALYTICAL PROCEDURES

All samples collected for laboratory chemical analyses will be analyzed for the parameters listed in Table D4.2, using the methods cited in Table D4.1. All reporting and deliverables for the O&M activities will include analytical results for the investigative samples, method blanks, blank spikes, duplicates, matrix spike/matrix spike duplicate samples and all pertinent QA/QC information required by the analytical methods (see Section 9.2).

The procedures for quantification of analytes are discussed in the appropriate analytical methods.

Targeted method detection limits will be consistent with those presented in Table D4.2. When matrix interferences are noted during sample analysis, actions will be taken by the laboratory to try to achieve the specified detection limits. Samples will not be diluted by more than a factor of five to reduce matrix effects. (Samples may be diluted to a greater extent if analytes of concern generate responses in excess of the linear response of the instrument.) The laboratory will re-extract, resonicate, and/or use any of the cleanup methods presented in SW-846 to eliminate matrix interferences. In such cases, the Laboratory QA/QC Officer will assure that the laboratory demonstrates good analytical practices and that such practices are documented in order to achieve the specified detection limits.

9.0 DATA REDUCTION, VALIDATION, ASSESSMENT, AND REPORTING

9.1 GENERAL

The contract laboratory will perform analytical data reduction and validation in-house under the direction of the laboratory QA/QC Officer. The laboratory's QA/QC Officer will be responsible for assessing data quality and advising of any data which were rated "preliminary" or "unacceptable" or other qualifications based on the QC criteria outlined in the relevant methods, which would caution the data user of possible unreliability. Data reduction, validation and reporting by the laboratory will be conducted as detailed in the following:

- i) Raw data produced and checked by the responsible analysts is turned over for independent review by another analyst;
- ii) The area supervisor reviews the data for attainment of quality control criteria presented in the referenced analytical methods;
- iii) Upon completion of all reviews and acceptance of the raw data by the laboratory operations manager, a computerized report will be generated and sent to the laboratory QA/QC Officer;
- iv) The laboratory QA/QC Officer will complete a thorough inspection of all reports;
- v) The laboratory QA/QC Officer and area supervisor will decide whether any sample re-analysis is required; and
- vi) Upon acceptance of the preliminary reports by the laboratory QA/QC Officer, final reports will be generated and signed by the laboratory manager.

The Engineer's QA/QC Officer will conduct an evaluation of data reduction and reporting by the laboratory. These evaluations will consider the finished data sheets, rinsate blank data, field duplicate data, and recovery data for surrogate and matrix spikes. The material will be checked for legibility, completeness, correctness, and the presence of requisite dates, initials, and signatures. The results of these checks will be assessed and reported to the project manager noting any discrepancies and their effect upon the acceptability of the data. All information garnered from QA/QC checks will be discussed in the final remedial design report.

Validation of the analytical data will be performed by the QA/QC Officer for analytical activities and for field activities. The data validation will be performed in accordance with the following documents: "USEPA Contract Laboratory Program National

Functional Guidelines for Organic Data Review", R-99/008 October 1999; and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA 540/R-94-013, Feb. 1994. Data analyzed using methods not covered in these documents will be validated using the general principles used in these documents, and the analytical requirements specified in the methods.

Assessment of analytical and in-house data will include checks on data consistency by looking for comparability of duplicate analyses, comparability to previous data from the same sampling location (if available), adherence to accuracy and precision control criteria detailed in this QAPP and anomalously high or low parameter values. The results of these data validations will be reported to the Project Manager and the contract laboratory, noting any discrepancies and their effect upon acceptability of the data. Additionally, the results of these data validations will be included in the applicable reports to NYSDEC.

Raw data from field measurements and sample collection activities that are used in project reports will be appropriately identified and appended to the report. Where data have been reduced or summarized, the method of reduction will be documented in the report. Field data will be audited for anomalously high or low values that may appear to be inconsistent with other data.

9.2 LABORATORY REPORTING, DATA PRESENTATION, AND FINAL REPORT

The deliverables detailed in Table D9.1 will be required for all water collection programs. The standard deliverables include all final sample and QA/QC results, but do not include raw data or instrument calibration data.

All raw sample data and supporting QA/QC data as specified in the analytical methods, shall be maintained accessible to the Engineer either in hard copy or on magnetic tape or disc (computer data files).

The laboratory will submit two (2) copies of the final analytical report within 21 calendar days of receipt of the final samples from each O&M sampling event activity.

9.3 DOCUMENT CONTROL SYSTEM

A document control system ensures that all documents are accounted for when the project is complete.

The project number assigned to this project is 1979 (an alternative number may be provided by the Town). This number will appear on sample identification tags, log books, data sheets, control charts, project memos and analytical reports, document control logs, corrective action forms and logs, QA plans, and other project analytical records.

9.4 QC CHECK POINTS AND DATA FLOW

The following specific QC check points will be common to all analyses. They are presented with the decision points:

Chemist - bench level checks

- systems check: sensitivity, linearity and reproducibility within specified limits;
- duplicate analyses within control limits;
- surrogate and matrix spike results within control limits; and
- calculation/data reduction checks: calculations cross-checked; any discrepancies between forms and results evident, results tabulated sequentially on the correct forms.

Supervisor

- systems operating within limits;
- data transcription correct;
- data complete; and
- data acceptable.

Sample Control

- samples returned to sample control following analysis.

QA/OC Manager

- QA objectives met;
- QC checks are completed; and
- final data and report package is complete.

10.0 INTERNAL QUALITY CONTROL CHECKS AND FREQUENCY

10.1 QC SAMPLE COLLECTION

To assess the quality of data resulting from the field sampling program, field duplicate samples, field (rinse) blank samples, trip blanks and samples for matrix spike analyses will be collected (where appropriate) and submitted to the analytical laboratory.

Field QA/QC samples that will be provided by the Engineer to the analytical laboratory will be as identified below:

- i) Field duplicate samples will be collected at the frequency outlined in Table D4.1. These samples will be submitted "blind" to the laboratory;
- ii) Field (rinse) blank samples will be collected at the frequency outlined in Table D4.1, when non-dedicated sampling equipment is used;
- iii) Triple sample volume will be supplied to the laboratory by the Engineer in order to perform spike and duplicate analyses at the frequency outlined in Table D4.1; and
- iv) Trip blank samples, consisting of deionized water, will be submitted to the laboratory for VOC analyses at a frequency of one per each batch of aqueous samples transported to the laboratory for VOC analysis.

10.2 LABORATORY QC SAMPLE ANALYSES

Specific procedures related to internal laboratory QC samples are described in the following subsections.

10.2.1 REAGENT BLANKS

A reagent blank will be analyzed by the laboratory at a frequency of one blank per analytical batch. The reagent blank, an aliquot of analyte-free water or solvent, will be carried through the entire analytical procedure.

10.2.2 MS/MSD OR MS/DUP ANALYSES

An MS/MSD sample will be analyzed for organic parameters and an MS/Dup will be analyzed for inorganic parameters at a minimum frequency specified in Table D4.1. Acceptable criteria and analytes that will be used for matrix spikes are identified in the appropriate methods (see Section 8.0). Percent spike recoveries will be used to evaluate analytical accuracy while percent relative standard deviation or the relative percent difference (RPD) between duplicate analyses will be used to assess analytical precision.

10.2.3 SURROGATE ANALYSES

Surrogates are organic compounds which are similar to the analytes of interest, but which are not normally found in environmental samples. Surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Every blank, standard and environmental sample analyzed by GC or GC/MS, including MS/MSD samples, will be spiked with surrogate compounds prior to sample preparation.

The compounds that will be used as surrogates and the levels of recommended spiking are specified in the methods. Surrogate spike recoveries must fall within the laboratory control limits as specified in the methods. If surrogate recoveries are excessively low (<10 percent), the laboratory will contact the Engineer for further instructions. Dilution of samples to bring the analyte concentration into the linear range of calibration may dilute the surrogates out of the quantification limit. Reanalysis of these samples is not required. Assessment of analytical quality in these cases will be based on the MS/MSD sample analysis results.

10.3 FIELD QC SAMPLE ANALYSES

To assess the quality of data resulting from the field sampling program, field duplicate and field blank samples will be taken and submitted to the analytical laboratory as blind samples.

10.3.1 TRIP BLANKS AND FIELD (RINSE) BLANKS

Trip blanks and field blanks will be used during the sampling programs to detect contamination introduced through sampling procedures and equipment, external field

conditions, transit of samples, container preparation, sample storage, or the analytical process.

Trip blanks for VOCs will be prepared by the laboratory at the same time and location as the containers for a particular sampling event. Trip blanks will accompany these containers to and from that event, but are at no time opened or exposed.

10.3.2 FIELD DUPLICATE SAMPLES

Field duplicate samples will be collected and used to assess the aggregate precision of sampling techniques and laboratory analysis. RPD control limits of less than 50 percent for water samples and less than 100 percent for soil samples will be used to assess all field duplicate results which are significantly above the detection limits.

11.0 PERFORMANCE AND SYSTEM AUDITS

11.1 LABORATORY

For the purpose of external evaluation, performance evaluation check samples are analyzed periodically by the laboratory. Internally, the evaluation of data from these samples is done on a continuing basis over the duration of a given project.

The QA/QC Officer may carry out performance and/or systems audits to insure that data of known and defensible quality are consistently produced during this program.

Systems audits are qualitative evaluations of all components of field and laboratory quality control measurement systems. They determine if the measurement systems are being used appropriately. The audits may be carried out before all systems are operational, during the program, or after completion of the program. Such audits typically involve a comparison of the activities given in the QA/QC plan described herein, with activities actually scheduled or performed. A special type of systems audit is the data management audit. This audit addresses only data collection and management activities.

The performance audit is a quantitative evaluation of the measurement systems used for a monitoring program. It requires testing the measurement systems with samples of known composition or behavior to quantitatively evaluate precision and accuracy. A performance audit may be carried out by or under the auspices of the QA/QC Officer without the knowledge of the analyst during each sampling event for this program.

It should be noted, however, that any additional external QA audits will only be performed if deemed necessary.

11.2 FIELD

Audits of field techniques will be conducted by the Field QA/QC Officer. These audits will include review of the sample collection and instrument calibration logbooks and chain of custody documents. Field inspections will also be performed to review sample collection and handling techniques, on-Site supplies of sampling equipment and standards, and availability of relevant project documents.

12.0 PREVENTIVE MAINTENANCE

12.1 LABORATORY PREVENTIVE MAINTENANCE

This section applies to both field and laboratory equipment. Specific preventive maintenance procedures for field equipment will be consistent with the manufacturer's guidelines. Specific preventive maintenance protocols for laboratory equipment will be consistent with the contract laboratory's standard operating procedures and instrument manufacturer's recommendations.

All analytical instruments to be used in this project will be serviced by laboratory personnel at regularly scheduled intervals in accordance with the manufacturers' recommendations. Instruments may also be serviced at other times due to failure. Requisite servicing beyond the abilities of laboratory personnel will be performed by the equipment manufacturer or their designated representative.

13.0 SPECIFIC ROUTINE PROCEDURES USED TO ASSESS DATA PRECISION, ACCURACY, AND COMPLETENESS

13.1 QA MEASUREMENT QUALITY INDICATORS

13.1.1 PRECISION

Precision will be assessed by comparing the analytical results between duplicate spike analyses. Precision as percent relative difference will be calculated as follows for values significantly greater than the associated detection limit:

$$\text{Precision} = \frac{\{D_2 - D_1\}}{\{D_1 + D_2 / 2\}} \times 100$$

D₁ = matrix spike recovery

D₂ = matrix spike duplicate spike recovery

For results near the associated detection limits, precision will be assessed based on the following criteria:

$$\text{Precision} = \text{original result} - \text{duplicate result} < \text{CRDL}$$

13.1.2 ACCURACY

Accuracy will be assessed by comparing a set of analytical results to the accepted or "true" values that would be expected. In general, MS/MSD and check sample recoveries will be used to assess accuracy. Accuracy as percent recovery will be calculated as follows:

$$\text{Accuracy} = \frac{A - B}{C} \times 100$$

A = The analyte determined experimentally from the spike sample

B = The background level determined by a separate analysis of the unspiked sample

C = The amount of spike added

13.1.3 COMPLETENESS

Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under normal conditions.

To be considered complete, the data set must contain all QC check analyses verifying precision and accuracy for the analytical protocol. In addition, all data are reviewed in terms of stated goals in order to determine if the database is sufficient.

When possible, the percent completeness for each set of samples will be calculated as follows:

$$\text{Completeness} = \frac{\text{valid data obtained}}{\text{total data planned}} \times 100 \text{ percent}$$

13.1.4 OUTLIERS

Procedures discussed previously will be followed for documenting deviations. In the event that a result deviates significantly from method established control limits, this deviation will be noted and its effect on the quality of the remaining data assessed and documented.

14.0 CORRECTIVE ACTION

The need for corrective action may be identified by system or performance audits or by standard QC procedures. The essential steps in the corrective actions system will be:

- checking the predetermined limits for data acceptability beyond which corrective action is required;
- identifying and defining problems;
- assigning responsibility for investigating the problem;
- investigating and determining the cause of the problem;
- determination of a corrective action to eliminate the problem (this may include reanalysis or resampling and analyses);
- assigning and accepting responsibility for implementing the corrective action;
- implementing the corrective action and evaluating the effectiveness;
- verifying that the corrective action has eliminated the problem; and
- documenting the corrective action taken.

For each measurement system, the laboratory QA/QC Officer will be responsible for initiating the corrective action and the laboratory supervisor will be responsible for implementing the corrective action.

15.0 QUALITY ASSURANCE REPORTS

Final reports will contain a discussion on QA/QC summarizing the quality of the data collected and/or used as appropriate for each phase of the project. The Project Coordinator, who has responsibility for these summaries, will rely on written reports/memoranda documenting the data assessment activities, performance and systems audits and footnotes identifying qualifications to the data, if any.

Each summary of sampling activities will include a tabulation of the data including:

- field blank and field duplicate sample results;
- maps showing well locations; and
- an explanation of any sampling conditions or quality assurance problems and their effect on data quality.

QA reports will be prepared by the QA/QC Officer following receipt of all analytical data. These reports will include discussions of the following and their effects on the quality of the data reported:

- sample holding times;
- laboratory/reagent blank data;
- surrogate spike, matrix spike and matrix spike duplicate data;
- field QA/QC data;
- pertinent instrument performance per method protocols; and
- audit results.

In addition, the QA reports will summarize all QA problems, and give a general assessment of QA results versus control criteria for such parameters as accuracy, precision, etc.

The QA reports will be submitted to NYSDEC with data packages.

TABLE D4.1

**SAMPLING AND ANALYSIS SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Analytical Method</i>	<i>Investigative Samples</i>	<i>Field Duplicates</i>	<i>Rinse Blanks</i>	<i>Trip Blanks</i>	<i>MS/MSD/Dup</i>
<i>Surface Water Sampling (Annual) ⁽¹⁾</i>						
TCL VOCs	8260 ⁽²⁾	8	1	0	1/day	1/1/0
TCL SVOCs	8270 ⁽²⁾	8	1	0	0	1/1/0
TCL PCBs	8082 ⁽²⁾	8	1	0	0	1/1/0
TAL Metals	6010/7000 ⁽²⁾	8	1	0	0	1/0/1
Cyanide	9010/9012 ⁽²⁾	8	1	0	0	1/0/1
Radiochemistry ⁽⁷⁾	EPA 900.0 ⁽⁸⁾	8	1	0	0	0/0/0
<i>Sediment Sampling (Annual) ⁽¹⁾</i>						
TCL VOCs	8260 ⁽²⁾	8	1	0	0	1/1/0
TCL SVOCs	8270 ⁽²⁾	8	1	0	0	1/1/0
TCL PCBs	8082 ⁽²⁾	8	1	0	0	1/1/0
TAL Metals	6010/7000 ⁽²⁾	8	1	0	0	1/0/1
Cyanide	9010/9012 ⁽²⁾	8	1	0	0	1/0/1
<i>Groundwater Sampling (Semi-Annual) ⁽¹⁾</i>						
TCL VOCs	8260 ⁽²⁾	19	1	1	1/day	1/1/0
TCL SVOCs	8270 ⁽²⁾	19	1	1	0	1/1/0
TCL PCBs	8082 ⁽²⁾	19	1	1	0	1/1/0
TAL Metals	6010/7000 ⁽²⁾	19	1	1	0	1/0/1
Cyanide	9010/9012 ⁽²⁾	Insoluble (pci/L)	1	1	0	1/0/1
Dioxins/Furans ⁽³⁾	1613B ⁽⁴⁾	19	1	0	0	0/0/0
Radiochemistry ⁽⁷⁾	EPA 900.0 ⁽⁸⁾	19	1	0	0	0/0/0

TABLE D4.1

**SAMPLING AND ANALYSIS SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Analytical Method</i>	<i>Investigative Samples</i>	<i>Field Duplicates</i>	<i>Rinse Blanks</i>	<i>Trip Blanks</i>	<i>MS/MSD/Dup</i>
<i>Discharge Sampling</i> ⁽⁵⁾ <i>(monthly)</i>						
PP Volatiles ⁽⁵⁾	624 ⁽⁴⁾	2	0	0	1/day	1/1/0
PP Semi-Volatiles ⁽⁵⁾	625 ⁽⁴⁾	2	0	0	0	1/1/0
PP Pesticides/PCBs ⁽⁵⁾	608 ⁽⁴⁾	2	0	0	0	1/1/0
Selected Metals ^{(5) (6)}	200 Series ⁽⁴⁾	2	0	0	0	1/0/1
pH ⁽⁵⁾	150.1 ⁽⁴⁾	2	0	0	0	0/0/0
Total Recoverable Phenols ⁽⁵⁾	420.1 ⁽⁴⁾	2	0	0	0	0/0/0
Radiochemistry ⁽⁷⁾	EPA 900.0 ⁽⁸⁾	2	0	0	0	0/0/0
TSS	160.2 ⁽⁴⁾	2	0	0	0	0/0/0
BOD	405.1 ⁽⁴⁾	2	0	0	0	0/0/0
Phosphorus	365 ⁽⁴⁾	2	0	0	0	0/0/0
<i>Additional Discharge Sampling (i.e. Every 3 Years)</i>						
PP Pesticides ⁽⁵⁾	608 ⁽⁴⁾	1	0	0	0	1/1/0
Dioxins/Furans ⁽⁵⁾	1613B ⁽⁴⁾	1	0	0	0	0/0/0

TABLE D4.1

**SAMPLING AND ANALYSIS SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

Notes:

- (1) List to be revised and potentially modified after two rounds of sample collection and analysis with NYSDEC concurrence.
- (2) Methods referenced from:
- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", (SW-846), Third Edition, 1986 (Rev. 9/94).
- (3) Sampled once per year for three years. Evaluate need for continued sampling/analysis after third year.
- (4) Methods referenced from:
- "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA-600/4-82-057, July 1982.
 - "Methods for Chemical Analysis of Water and Wastes", EPA 600/4-79-020, March 1983.
- (5) The specific parameters to be analyzed for are outlined in the discharge permit from the Buffalo Sewer Authority.
- (6) Selected Metals: Barium, Cadmium, Chromium, Copper, Lead, Mercury, and Zinc.
- (7) Samples will be collected annually. Each sample for radiochemistry will be filtered by the laboratory to create a dissolved (filtrate) sample and an insoluble (filter) sample. Each sample will be analyzed. A background value of 1 pci/g can be subtracted from the insoluble fraction for the thorium and uranium series.
- (8) Method referenced from:
- Method EPA 900.0 40 CFR Part 136. Any Gamma spectroscopy will be performed using Method 901.1.
- MS/MSD Matrix Spike/Matrix Spike Duplicate
- Dup Duplicate
- TCL Target Compound List
- TAL Target Analyte List
- VOCs Volatile Organic Compounds
- SVOCs Semi-Volatile Organic Compounds
- PCBs Polychlorinated Biphenyls
- PP Priority Pollutant

TABLE D4.2

**ANALYTE SUMMARY AND TARGETED DETECTION LIMITS
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Targeted Detection Limits ⁽¹⁾</i>	
	<i>Water</i>	<i>Sediment</i>
<i>Surfacewater and Sediment Sampling (Annual) ⁽²⁾</i>		
<i>VOCs</i>		
Chloromethane	5 µg/L	10 µg/kg
Bromomethane	5 µg/L	10 µg/kg
Vinyl chloride	2 µg/L	10 µg/kg
Chloroethane	5 µg/L	10 µg/kg
Methylene chloride	5 µg/L	10 µg/kg
Acetone	10 µg/L	10 µg/kg
Carbon disulfide	10 µg/L	10 µg/kg
1,1,-Dichloroethylene	5 µg/L	10 µg/kg
1,1-Dichloroethane	5 µg/L	10 µg/kg
1,2-Dichloroethylene (total)	5 µg/L	10 µg/kg
Chloroform	7 µg/L	10 µg/kg
1,2-Dichloroethane	0.6 µg/L	10 µg/kg
2-Butanone	10 µg/L	10 µg/kg
1,1,1-Trichloroethane	5 µg/L	10 µg/kg
Carbon tetrachloride	5 µg/L	10 µg/kg
Bromodichloromethane	10 µg/L	10 µg/kg
1,2-Dichloropropane	1 µg/L	10 µg/kg
cis-1,3-Dichloropropene	0.4 µg/L	10 µg/kg
Trichloroethene	5 µg/L	10 µg/kg
Dibromochloromethane	10 µg/L	10 µg/kg
1,1,2-Trichloroethane	1 µg/L	10 µg/kg
Benzene	0.7 µg/L	10 µg/kg
trans-1,3-Dichloropropene	0.4 µg/L	10 µg/kg
Bromoform	10 µg/L	10 µg/kg
4-Methyl-2-pentanone	10 µg/L	10 µg/kg
2-Hexanone	10 µg/L	10 µg/kg
Tetrachloroethene	5 µg/L	10 µg/kg
Toluene	5 µg/L	10 µg/kg
1,1,2,2-Tetrachloroethane	5 µg/L	10 µg/kg
Chlorobenzene	5 µg/L	10 µg/kg
Ethyl benzene	5 µg/L	10 µg/kg
Styrene	5 µg/L	10 µg/kg
Total Xylenes	5 µg/L	10 µg/kg
<i>SVOCs</i>		
Phenol	10 µg/L	330 µg/kg
bis(2-Chloroethyl)ether	1.0 µg/L	330 µg/kg
2-Chlorophenol	10 µg/L	330 µg/kg
1,3,-Dichlorobenzene	3 µg/L	330 µg/kg
1,4-Dichlorobenzene	3 µg/L	330 µg/kg
1,2-Dichlorobenzene	3 µg/L	330 µg/kg
2-Methylphenol	10 µg/L	330 µg/kg
2,2'-oxybis(1-Chloro-propane)*	10 µg/L	330 µg/kg
4-Methylphenol	10 µg/L	330 µg/kg
N-Nitroso-di-n-propylamine	10 µg/L	330 µg/kg

TABLE D4.2

**ANALYTE SUMMARY AND TARGETED DETECTION LIMITS
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Targeted Detection Limits ⁽¹⁾</i>	
	<i>Water</i>	<i>Sediment</i>
<i>Surfacewater and Sediment Sampling (Annual) ⁽²⁾</i>		
Hexachloroethane	5 µg/L	330 µg/kg
Nitrobenzene	0.4 µg/L	330 µg/kg
Isophorone	10 µg/L	330 µg/kg
2-Nitrophenol	10 µg/L	330 µg/kg
2,4-Dimethylphenol	10 µg/L	330 µg/kg
bis(2-Chloroethoxy)methane	5 µg/L	330 µg/kg
2,4-Dichlorophenol	5 µg/L	330 µg/kg
1,2,4-Trichlorobenzene	5 µg/L	330 µg/kg
Napthalene	10 µg/L	330 µg/kg
4-Chloroaniline	5 µg/L	330 µg/kg
Hexachlorobutadiene	0.5 µg/L	330 µg/kg
4-Chloro-3-methylphenol	10 µg/L	330 µg/kg
2-Methylnaphthalene	10 µg/L	330 µg/kg
Hexachlorocyclopentadiene	5 µg/L	330 µg/kg
2,4,6-Trichlorophenol	10 µg/L	330 µg/kg
2,4,5-Trichlorophenol	25 µg/L	800 µg/kg
2-Chloronaphthalene	10 µg/L	330 µg/kg
2-Nitroaniline	5 µg/L	800 µg/kg
Dimethyl phthalate	10 µg/L	330 µg/kg
Acenaphthylene	10 µg/L	330 µg/kg
2,6-Dinitrotoluene	5 µg/L	330 µg/kg
3-Nitroaniline	5 µg/L	800 µg/kg
Acenaphthene	10 µg/L	330 µg/kg
2,4-Dinitrophenol	10 µg/L	800 µg/kg
4-Nitrophenol	25 µg/L	800 µg/kg
Dibenzofuran	10 µg/L	330 µg/kg
2,4-Dinitrotoluene	5 µg/L	330 µg/kg
Diethylphthalate	10 µg/L	330 µg/kg
4-Chlorophenyl phenyl ether	10 µg/L	330 µg/kg
Fluorene	10 µg/L	330 µg/kg
4-Nitroaniline	5 µg/L	800 µg/kg
4,6-Dinitro-2-methylphenol	25 µg/L	800 µg/kg
N-Nitrosodiphenylamine	10 µg/L	330 µg/kg
4-Bromophenyl phenyl ether	10 µg/L	330 µg/kg
Hexachlorobenzene	0.04 µg/L	330 µg/kg
Pentachlorophenol	25 µg/L	800 µg/kg
Phenanthrene	10 µg/L	330 µg/kg
Anthracene	10 µg/L	330 µg/kg
Carbazole	10 µg/L	330 µg/kg
Di-n-butyl phthalate	10 µg/L	330 µg/kg
Fluoranthene	10 µg/L	330 µg/kg
Pyrene	10 µg/L	330 µg/kg
Butyl benzyl phthalate	10 µg/L	330 µg/kg
3,3'-Dichlorobenzidine	5 µg/L	330 µg/kg
Benz(a)anthracene	0.002 µg/L	330 µg/kg
Chrysene	0.002 µg/L	330 µg/kg

TABLE D4.2

**ANALYTE SUMMARY AND TARGETED DETECTION LIMITS
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Targeted Detection Limits ⁽¹⁾</i>	
	<i>Water</i>	<i>Sediment</i>
<i>Surfacewater and Sediment Sampling (Annual) ⁽²⁾</i>		
bis(2-Ethylhexyl)phthalate	5 µg/L	330 µg/kg
Di-n-octyl phthalate	10 µg/L	330 µg/kg
Benzo(b)fluoranthene	0.002 µg/L	330 µg/kg
Benzo(k)fluoranthene	0.002 µg/L	330 µg/kg
Benzo(a)pyrene	0.002 µg/L	330 µg/kg
Indeno(1,2,3-cd)pyrene	0.002 µg/L	330 µg/kg
Dibenz(a,h)anthracene	10 µg/L	330 µg/kg
Benzo(g,h,i)perylene	10 µg/L	330 µg/kg
<i>PCBs</i>		
Aroclor 1016	10 µg/L	33 µg/kg
Aroclor 1221	10 µg/L	67 µg/kg
Aroclor 1232	10 µg/L	33 µg/kg
Aroclor 1242	10 µg/L	33 µg/kg
Aroclor 1248	10 µg/L	33 µg/kg
Aroclor 1254	10 µg/L	33 µg/kg
Aroclor 1260	10 µg/L	33 µg/kg
<i>Metals</i>		
Aluminum	100 µg/L	10 mg/kg
Antimony	3 µg/L	1 mg/kg
Arsenic	10 µg/L	1 mg/kg
Barium	200 µg/L	20 mg/kg
Beryllium	3 µg/L	1 mg/kg
Cadmium	5 µg/L	0.5 mg/kg
Calcium	5000 µg/L	500 mg/kg
Chromium	10 µg/L	1 mg/kg
Cobalt	50 µg/L	5 mg/kg
Copper	25 µg/L	2.5 mg/kg
Iron	100 µg/L	10 mg/kg
Lead	3 µg/L	0.3 mg/kg
Magnesium	5000 µg/L	500 mg/kg
Manganese	15 µg/L	1.5 mg/kg
Mercury	0.2 µg/L	0.5 mg/kg
Nickel	40 µg/L	4 mg/kg
Potassium	5000 µg/L	500 mg/kg
Selenium	5 µg/L	0.5 mg/kg
Silver	10 µg/L	1 mg/kg
Sodium	5000 µg/L	500 mg/kg
Thallium	0.5 µg/L	1 mg/kg
Vanadium	50 µg/L	5 mg/kg
Zinc	20 µg/L	2 mg/kg
<i>Cyanide</i>	10 µg/L	0.25 mg/kg

TABLE D4.2

**ANALYTE SUMMARY AND TARGETED DETECTION LIMITS
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

	<i>Targeted Detection Limits ⁽¹⁾</i>	
	<i>Water</i>	<i>Sediment</i>
<i>Surfacewater and Sediment Sampling (Annual) ⁽²⁾</i>		
<i>Radiochemistry (Annual) ⁽⁴⁾</i>	Soluble (pCi/L) (3)	Insoluble (pCi/L) (3)
	<i>Targeted Detection Limits ⁽¹⁾</i>	
	<i>Water</i>	
<i>Groundwater Sampling (Semi-Annual) ⁽²⁾</i>		
<i>VOCs, SVOCs, PCBs, Metals, Cyanide</i>	See Surface Water Sampling Detection Limits	
<i>Dioxins/Furans</i>		
2,3,7,8-TCDD/F	0.000035 µg/L (TEQ)	
<i>Radiochemistry (Annual) ⁽⁴⁾</i>	See Surface Water Sampling	
<i>Discharge Sampling ⁽²⁾</i>		
<i>VOCs, SVOCs, Pesticides, PCBs, Metals, Cyanide, Dioxins/furans</i>	TBD	
<i>TSS, BOD, Phosphorus, Total Recoverable Phenols</i>		
<i>Radiochemistry (Annual) ⁽⁴⁾</i>	See Surface Water Sampling	

Notes:

- (1) Specific quantitation limits are highly matrix dependent. The water quantitation limits listed herein are in accordance with the NYSDEC Ambient Water Quality Standard and Guidance Values but are provided for guidance only and may not always be achieved. Soil limits will be affected by percent solids.
- (2) Analytical List may be revised after two rounds of sample collection with NYSDEC concurrence.
- (3) Detection limits are determined on a sample by sample basis.
- (4) All isotopes with activity greater than the Minimum Detectable Activity to be reported.

VOCs Volatile Organic Compounds
SVOCs Semi-Volatile Organic Compounds
PP Priority Pollutant
PCBs Polychlorinated Biphenyls
TBD Detection limits to be determined.

TABLE D5.1

**SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

<i>Analyses</i>	<i>Sample Containers</i>	<i>Preservation</i>	<i>Maximum Holding Time</i>	<i>Notes</i>
<i>Water</i>				
VOCs	Four 40-mL Teflon lined septum vials	Cool 4°C	7 days from VTSR to analysis	Fill completely, no air bubbles
SVOCs, Pesticides/ PCBs	Two 1-liter amber glass bottles per analysis	Cool 4°C	5 days from VTSR to extraction 40 days from extraction to analysis	Fill to neck of bottles
Metals	One 1-liter plastic bottle	HNO ₃ to pH <2, Cool 4°C	6 months from VTSR to analysis (mercury 26 days from VTSR)	Fill to shoulder of bottle
Total Cyanide	One 500-mL plastic or glass bottle	NaOH to pH >12, Cool 4°C	12 days from VTSR to analysis	Fill to shoulder of bottle
TSS	One 1-liter plastic bottle	Cool 4°C	5 days from VTSR to analysis	Fill to neck of bottle
BOD	One 125-mL sterile plastic bottle	Cool 4°C	24 hours from VTSR to analysis	Fill to neck of bottle
Phosphorous	One 500-ml plastic bottle	Cool 4°C, H ₂ SO ₄ , pH <2	26 days from VTSR to analysis	Fill to neck of bottle

TABLE D5.1

**SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

<i>Analyses</i>	<i>Sample Containers</i>	<i>Preservation</i>	<i>Maximum Holding Time</i>	<i>Notes</i>
Dioxins/ Furans	Two 1-liter amber glass bottles	Cool 4°C	6 months from VTSR to analysis	Fill to neck of bottle
Total Recoverable Phenols	One 500-ml amber glass bottle	Cool 4°C, H ₂ SO ₄ , pH <2	26 days from VTSR to analysis	Fill to neck of bottle
Radiochemistry	Two 1-liter glass bottles	None	None established	Fill to neck of bottle
<i>Sediment</i>				
TCL VOCs	One 125-ml glass	Cool 4°C	10 days from VTSR to analysis	Fill to neck of bottle
TCL SVOCs	One 250-ml glass	Cool 4°C	10 days from VTSR to extraction 40 days from extraction to analysis	Fill to neck of bottle
TCL PCBs	One 250-ml glass	Cool 4°C	10 days from VTSR to extraction 40 days from extraction to analysis	Fill to neck of bottle
TCL Metals (except Hg)	One 250-ml glass	Cool 4°C	6 months from VTSR to analysis	Fill to neck of bottle

TABLE D5.1

**SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME SUMMARY
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

<i>Analyses</i>	<i>Sample Containers</i>	<i>Preservation</i>	<i>Maximum Holding Time</i>	<i>Notes</i>
TCL Mercury	One 250-ml glass	Cool 4°C	26 days from VTSR to analysis	Fill to neck of bottle
TCL Cyanide	One 250-ml glass	Cool 4°C	12 days from VTSR to analysis	Fill to neck of bottle

Notes:

VOCs Volatile Organic Compounds

SVOCs Semi-Volatile Organic Compounds

VTSR Verified Time of Sample Receipt

TABLE D9.1

**LABORATORY REPORTING DELIVERABLES
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK**

Standard deliverables - Will be used for radiochemistry and all water sampling programs after initial rounds.

- A. General Information
 - i) date collected
 - ii) date extracted
 - iii) date analyzed
 - iv) chain of custody report form,
 - v) detailed narrative

- B. Sample and QA/QC Results (including ASP-like summary forms)
 - i) sample results
 - ii) duplicate results
 - iii) blank results
 - iv) spike; spike duplicate results
 - v) surrogate recoveries

All sample data and its corresponding QA/QC data shall be maintained accessible to Town of Cheektowaga either in hard copy or on magnetic tape or disc (computer data files).

ATTACHMENT A

CURRICULA VITAE

(To Be Provided By Selected Engineer)

APPENDIX E

WARRANTIES



ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

*Avert
UPS
7/16/02*

July 16, 2002

Mr. Michael Mahar
Sevenson Environmental Services, Inc.
2749 Lockport Road
Niagara Falls, NY 14305

Dear Mike:

I am enclosing the revised original GSE material (40 mil UltraFlex) warranty for the Pfohl Brothers Landfill project.

I am also enclosing 2 copies of the revised ALCO workmanship warranty. Please sign both copies and return one to our office for our file.

Thank you for your cooperation and if you have any questions, please feel free to call me.

Sincerely,

Cathy Genovese

Cathy Genovese
Administrative Assistant

Enclosures



ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6866
Fax (609) 448-7575

FIVE YEAR LIMITED WORKMANSHIP WARRANTY

PROJECT: **PFOHL BROTHERS LANDFILL**
Cheektowaga, NY

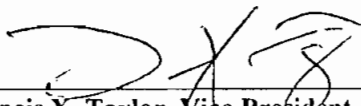
Subject to the terms and conditions set forth below, Atlantic Lining Co., Inc. (ALCO) warrants that the lining or cover installation at the above referenced Project was installed by ALCO in accordance with the specifications in a good and workmanlike manner and that the installation of the liner is free from defects in workmanship for a period of five (5) years from 12/4/01. This warranty covers only defects in workmanship occurring during the installation of the liner. This warranty does not cover any damages to, or defects in the liner found to have been a result of conditions such as, but not limited to, misuse, abuse, vandalism, exposure of the liner to harmful chemicals, mechanical abuse of any kind, floating debris, excessive pressures or stresses from any source, Acts of God, such as, but not limited to, fire, earthquakes, flood or severe weather conditions of any type.

In the event that circumstances are found to exist which the Purchaser believes may precipitate a claim under this warranty, the following procedures shall apply:

- a. Purchaser shall give ALCO written notice of the facts and circumstances of said claim within 30 days of becoming aware of said facts and circumstances.
- b. Within thirty days after receipt of the notice described in paragraph (a) above, ALCO shall provide written notification to the Purchaser that either it will send a representative to inspect the allegedly defective installation or that another mutually agreed upon course of action will be taken. In the event that upon inspection, ALCO determines that the claim is caused by any event or circumstance not covered by this warranty, the Purchaser agrees to pay all reasonable expenses incurred by ALCO in making the inspection.
- c. Purchaser shall not repair, replace, remove, alter or disturb liner. Nor allow anyone else to repair, replace, remove, alter or disturb any liner prior to ALCO inspection.
- d. If Atlantic Lining Co., Inc. determines that the alleged defects are covered by this warranty, Atlantic Lining Co., Inc. will, at its sole discretion, either repair the defects in the installation or reinstall the liner. **THE REMEDIES PROVIDED HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY.**
- e. Purchaser agrees that it shall bear full responsibility for providing ALCO with clean, dry and unobstructed access to the liner in order for ALCO to perform the inspections and warranty work which may be required pursuant to this warranty.

THE REMEDIES PROVIDED TO PURCHASER HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY AND ARE INTENDED FOR THE SOLE BENEFIT OF PURCHASER. ATLANTIC LINING CO., INC. SHALL HAVE NO LIABILITY UNDER THIS WARRANTY TO THIRD PARTIES OR STRANGERS TO THIS AGREEMENT. THE WARRANTY APPLICABLE TO THE INSTALLATION OF THE LINER AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.

ATLANTIC LINING CO., INC.

BY: 
Francis X. Taylor, Vice President

DATE: December 4, 2001

I have read and agree to be bound by the terms and conditions of the foregoing warranty.

BY: _____

TITLE: _____

COMPANY: _____

DATE: _____



ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

FIVE YEAR LIMITED WORKMANSHIP WARRANTY

PROJECT: PFOHL BROTHERS LANDFILL
Cheektowaga, NY

Subject to the terms and conditions set forth below, Atlantic Lining Co., Inc. (ALCO) warrants that the lining or cover installation at the above referenced Project was installed by ALCO in accordance with the specifications in a good and workmanlike manner and that the installation of the liner is free from defects in workmanship for a period of five (5) years from 12/4/01. This warranty covers only defects in workmanship occurring during the installation of the liner. This warranty does not cover any damages to, or defects in the liner found to have been a result of conditions such as, but not limited to, misuse, abuse, vandalism, exposure of the liner to harmful chemicals, mechanical abuse of any kind, floating debris, excessive pressures or stresses from any source, Acts of God, such as, but not limited to, fire, earthquakes, flood or severe weather conditions of any type.

In the event that circumstances are found to exist which the Purchaser believes may precipitate a claim under this warranty, the following procedures shall apply:

- a. Purchaser shall give ALCO written notice of the facts and circumstances of said claim within 30 days of becoming aware of said facts and circumstances.
- b. Within thirty days after receipt of the notice described in paragraph (a) above, ALCO shall provide written notification to the Purchaser that either it will send a representative to inspect the allegedly defective installation or that another mutually agreed upon course of action will be taken. In the event that upon inspection, ALCO determines that the claim is caused by any event or circumstance not covered by this warranty, the Purchaser agrees to pay all reasonable expenses incurred by ALCO in making the inspection.
- c. Purchaser shall not repair, replace, remove, alter or disturb liner. Nor allow anyone else to repair, replace, remove, alter or disturb any liner prior to ALCO inspection.
- d. If Atlantic Lining Co., Inc. determines that the alleged defects are covered by this warranty, Atlantic Lining Co., Inc. will, at its sole discretion, either repair the defects in the installation or reinstall the liner. **THE REMEDIES PROVIDED HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY.**
- e. Purchaser agrees that it shall bear full responsibility for providing ALCO with clean, dry and unobstructed access to the liner in order for ALCO to perform the inspections and warranty work which may be required pursuant to this warranty.

THE REMEDIES PROVIDED TO PURCHASER HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY AND ARE INTENDED FOR THE SOLE BENEFIT OF PURCHASER. ATLANTIC LINING CO., INC. SHALL HAVE NO LIABILITY UNDER THIS WARRANTY TO THIRD PARTIES OR STRANGERS TO THIS AGREEMENT. THE WARRANTY APPLICABLE TO THE INSTALLATION OF THE LINER AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.

ATLANTIC LINING CO., INC.

BY: 
Francis X. Taylor, Vice President

DATE: December 4, 2001

I have read and agree to be bound by the terms and conditions of the foregoing warranty.

BY: _____

TITLE: _____

COMPANY: _____

DATE: _____



**Sevenson
Environmental
Services, Inc.**

July 31, 2002

Conestoga-Rovers & Associates
651 Colby Drive
Waterloo, Ontario, Canada N2V 1C2

Attention: Klaus Schmidtke, Ph D, P.E.
Project Manager

Regarding: Manufacturer's and Installation Warranties for G1 & G2 Geotextile
Pfohl Brothers Landfill Project, Cheektowaga, New York

Mr. Schmidtke:

Attached is the manufacturers 20 year warranty for the G1 and G2 geotextiles supplied for the Pfohl Brothers Landfill Project. As discussed at the progress meeting held at the site on June 27, 2002, the start date for the warranty is November 16, 2001, the day the perimeter collection system was completed.

Sevenson warrants that the G1 and G2 geotextiles have been installed in accordance with the manufacturers recommendations and standard industry practices.

If you have any questions or comments regarding this warranty, please contact me at (716) 284-0431.

Very Truly Yours,

Michael D. Mahar
Project Manager

cc: Paul Thomson, SES



**PRO-RATA LIMITED WARRANTY
FOR GSE LINING TECHNOLOGY, INC.
(GEOSYNTHETIC MANUFACTURED MATERIALS)
(U.S.A.)**

Date: July 8, 2002
 Purchasers Names: Pfohl Brothers Landfill Site Steering Committee
 Civic Center Plaza, Suite 103
 3300 Five Mile Road
 Livonia, Michigan 48154
 AND Severson Environmental Services, Inc.
 2749 Lockport Road
 Niagara Falls, New York 14305
 Product Type/Description: GSE UltraFlex 40 mil

Warranty No.: 504057
 Project No.: 504057
 Effective Date: December 4, 2001
 Project Name: Pfohl Brothers Landfill
 Project Address: Cheektowaga, New York

GSE Lining Technology, Inc. ("GSE") warrants each GSE product described above to be free from material manufacturing defects (as described by the contract's material specifications) and to be able to withstand normal weathering for a period of twenty (20) years from the above effective date for "normal use" in approved applications. This limited warranty does not include damages or defects in the GSE product resulting from acts of God, casualty or catastrophe, including but not limited to: earthquakes, floods, piercing hail, tornadoes or force majeure. The term "normal use" does not include, among other things, the exposure of GSE's product to harmful chemicals, abuse by machinery, equipment or people; improper site preparation or placement of cover materials; excessive pressures or stresses from any source. This warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson-Moss Warranty Act.

Should defects or premature loss of use within the scope of this warranty occur, GSE will, at its option, repair or replace the GSE product on a pro-rata basis at the current price in such manner as to charge the Purchaser only for that portion of the warranted life which has elapsed since the purchase of the product. GSE shall have the right to inspect and determine the cause of the alleged defect in the product and to take appropriate steps to repair or replace the product if a defect exists that is covered under this warranty. This limited warranty only extends to the geosynthetic portion of this product manufactured by GSE and does not apply to any third-party manufactured materials attached to GSE's product. The third-party portion of the product will carry the original manufacturer's warranty that will be passed through to the Purchaser.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail or courier, to the President of GSE, within ten (10) days of Purchaser becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have rights under this warranty. GSE shall not be obligated to perform any inspection or obligated to perform any repair or replacement under this warranty until the area is made available free from all obstructions, water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this warranty, Purchaser shall reimburse GSE for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the product as GSE determines to have violated the warranty provided herein. GSE shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to: damages for loss of production, lost profits, personal injury or property damage. GSE shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser to GSE's product, unless GSE specifically authorized, in writing, said repairs, replacements, modifications or alterations in advance. GSE liability under this warranty shall in no event exceed the replacement cost of the product sold to the Purchaser for the particular installation in which it failed.

GSE neither assumes nor authorizes any person other than an officer of GSE to assume for it any other or additional liability in connection with the GSE product made on the basis of the Limited Warranty. **GSE MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN HEREIN AND HEREBY DISCLAIMS ALL WARRANTIES, INCLUDING BOTH EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, AND BY ACCEPTING DELIVERY OF THE PRODUCT, PURCHASER WAIVES ALL OTHER POSSIBLE WARRANTIES. GSE'S WARRANTY BECOMES AN OBLIGATION OF GSE TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT.**

This warranty is extended to the Purchaser and is non-transferable and non-assignable, i.e. there are no third-party beneficiaries to this warranty.

GSE LINING TECHNOLOGY, INC.
 BY: Candice D. [Signature]
 Authorized Representative



June 25, 2002

Ms. Danielle Flores
Epic Sales, Inc.
104 Worth Street
Iselin, NJ 08830

RE: Pfohl Brothers Landfill Site, Severson Environmental, Buffalo, NY
20 Year Warranty

Ms. Flores:

For the Pfohl Brothers Landfill Site, Ten Cate Nicolon will warrant our product to be free from manufacturing defects and material degradation for a period of twenty years from the date of installation. Ten Cate Nicolon will replace defective product without charge to our customer. Replacement of the product is the buyer's sole remedy for a breach and Ten Cate Nicolon will not be liable for any consequential damage attributed to a defective product.

This warranty is based on the material being installed properly in a suitable application. Ten Cate Nicolon assumes no responsibility for the project material specification and its suitability in this application.

Sincerely,

A handwritten signature in black ink, appearing to read "Todd M. Anderson", written over a horizontal line.

Todd M. Anderson
East Region Manager

APPENDIX F
ACCESS AGREEMENTS

ADDENDUM TO ACCESS AGREEMENT

This Addendum by and between Paul Pfohl, Bernice Pfohl, Dolores Pfohl and Richard Pfohl, individually, c/o Rick W. Kennedy, Esq., Hodgson, Russ, Andrews, Woods & Goodyear, 1800 One M&T Plaza, Buffalo, NY 14203 (hereinafter referred to as the "Owners") and those individuals, partnerships and/or corporations comprising the Pfohl Brothers Landfill PRP Group, whose current members are specifically identified in Schedule A attached hereto and made a part hereof (hereinafter referred to as the "PRP Group"), amends and updates the Access Agreement, dated November 23, 1993, between the Owners and the PRP Group.

WITNESSETH:

WHEREAS, the PRP Group intends to enter into a Consent Order with New York State Department of Environmental Conservation to perform response activities at the Pfohl Brothers Landfill (the "Site"), which includes the Property owned by the Owners;

WHEREAS, the parties hereto wish to affirm the PRP Group's right of access to the Property to perform response activities, including those required by the Consent Order;

WHEREFORE, the parties hereto, mutually agreeing and intending to be bound hereby, hereby amend the Access Agreement dated November 23, 1993 as follows:

Paragraphs 1, 2 and 5 of the aforementioned Access Agreement are amended to read as follows:

1. Owners hereby grant to the PRP Group, its successors, assigns, employees and contractors, the right to access to all the Property for all response activities undertaken in connection with the Site, including but not limited to the right to enter the Property to perform work contemplated by the Consent Order.

2. The PRP Group may conduct response activities on the Property, including but not limited to excavation, grading, clearing and capping, and may place, keep and operate on the Property machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other material, tools or equipment which may be used in connection with all response activities undertaken with the Site.

5. The PRP Group shall give the Owners or their designee reasonable notice of its intent to enter the Property to commence work and shall provide periodic written reports documenting its progress in performing the Consent Order work.

The remainder of the aforementioned Access Agreement continues unamended.

IN WITNESS WHEREOF, the parties hereto have duly executed this Addendum as of this _____ day of _____, 1999.

Sworn to and subscribed before me this 13 day of March, 2000, 1999.

[Signature]

[Signature]
Paul Pfohl

Dated: 3-13-00



Sworn to and subscribed before me this
_____ day of _____, 1999.

Dolores Pfohl

Dated: _____

Sworn to and subscribed before me this
_____ day of _____, 1999.

Bernice Pfohl

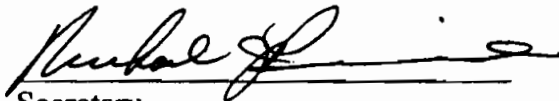
Dated: _____

Sworn to and subscribed before me this
_____ day of _____, 1999.

Richard Pfohl

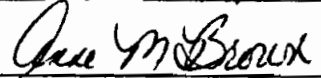
Dated: _____

Pfohl Brothers PRP Group

By: 
Secretary

Dated: MAY 17, 2000

Sworn to and subscribed before me this ²⁰⁰⁰
17 day of MAY, 1999.



ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 12/31/2003

ACCESS AGREEMENT

THIS AGREEMENT is by and between Elizabeth L. McBride of 4005-21 Meadowwood Drive, Ft. Pierce, FL 34951, ("Owner") and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A attached hereto (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, Owner holds fee title to all those tracts or parcels of land situated in the Town of Cheektowaga, Erie County, New York, designated as Tax Map. 82-030-4-10 (hereinafter referred to as the "Property");

WHEREAS, the Property is located on or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by the New York State Department of Environmental Conservation ("NYDEC");

WHEREAS, the NYDEC has issued a Record of Decision, dated February 1992, setting forth the selected remedial action plan for the Site;

WHEREAS, the Steering Committee has engaged in response activities at the Site, including interim remedial measures, recently has submitted a final design plan to the NYDEC to remediate the Site, and intends to enter into a consent order with NYDEC to remediate the Site;

WHEREAS, in order to perform certain response activities at the Site and the Property including the implementation of the design plan, the Steering Committee seeks permission to enter onto the Property and perform response activities and work for purposes of remediating the Site.

NOW, THEREFORE, in consideration of one dollar (\$1.00) and other good and valuable consideration paid to the Owner by the Steering Committee, the receipt of which is hereby acknowledged, the parties mutually agree and intend to be bound as follows:

1. Owner hereby grants to the Steering Committee, its successors, assigns, representatives, employees, contractors and other authorized designees the right to access to the Property for all response activities undertaken in connection with the Site, including the right to enter the Property to perform the work described in the design plan.

2. The Steering Committee may sample, clear, excavate, consolidate waste, move earth, construct a barrier system, and construct a permanent cap on the Property as needed, and may place, keep and operate machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other item which may be used in connection with response activities undertaken for the Site, including the implementation of the design plan, on the Property.

3. The Steering Committee agrees to indemnify the Owner for liability or damages suffered by Owner arising from the access to or use of the Property by the Steering Committee

or their agents to the extent such liability is caused by the negligence of the Steering Committee or their agents, excepting, however, that this Agreement is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York, or the United States of America, regarding the liability or pro rata share of liability attributable to any party, for response costs associated with the Site or the Property, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

4. This Agreement shall touch and concern and run with the Property, and all its terms, covenants and conditions shall be binding upon and inure to the benefit of the parties hereto, their legal representatives, successors and assigns.

5. The Steering Committee shall give the Owner advance notice of its intent to enter the Property to commence response activities. The Owner shall not interfere with the response activities of the Steering Committee or its agents on the Property.

6. Owner warrants that he has good title to the Property and the right and power to enter into this Agreement.

7. This Agreement shall be construed in accordance with the laws of the State of New York, and shall not be modified except by signed, written agreement of the parties.

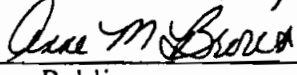
8. The terms of this Agreement shall expire only upon the completion of response activities at the Pfohl Brothers Landfill Site.

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement.

PFOHL BROTHERS LANDFILL
SITE STEERING COMMITTEE

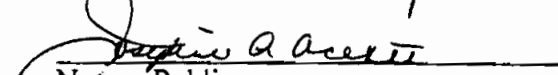
By:  Michael Percival, Secretary
 Elizabeth L. McBride

Sworn to and subscribed before me
this 3 day of July, 2000.


Notary Public
My Commission Expires:

ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 02/07/2003

Sworn to and subscribed before me
this 12 day of May, 2000.


Notary Public
My Commission Expires: 4/17/2002

JOSEPHINE A. ACESTE
Notary Public, State of New York
No. 01AC8040048
Qualified in Orange County
Commission Expires April 17, 2002

ACCESS AGREEMENT

THIS AGREEMENT is by and between Aero Land, Inc., of 215 California Drive, Williamsville, NY 14221, ("Owner") and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A attached hereto (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, Owner holds fee title to all those tracts or parcels of land situated in the Town of Cheektowaga, Erie County, New York, designated as Tax Map. 82.030-4-9.2 and 82.030-4-9.11 (hereinafter referred to as the "Property");

WHEREAS, the Property is located on or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by the New York State Department of Environmental Conservation ("NYDEC");

WHEREAS, the NYDEC has issued a Record of Decision, dated February 1992, setting forth the selected remedial action plan for the Site;

WHEREAS, the Steering Committee has engaged in response activities at the Site, including interim remedial measures, recently has submitted a final design plan to the NYDEC to remediate the Site, and intends to enter into a consent order with NYDEC to remediate the Site;

WHEREAS, in order to perform certain response activities at the Site and the Property including the implementation of the design plan, the Steering Committee seeks permission to enter onto the Property and perform response activities and work for purposes of remediating the Site.

NOW, THEREFORE, in consideration of one dollar (\$1.00) and other good and valuable consideration paid to the Owner by the Steering Committee, the receipt of which is hereby acknowledged, the parties mutually agree and intend to be bound as follows:

1. Owner hereby grants to the Steering Committee, its successors, assigns, representatives, employees, contractors and other authorized designees the right to access to the Property for all response activities undertaken in connection with the Site, including the right to enter the Property to perform the work described in the design plan.

2. The Steering Committee may sample, clear, excavate, consolidate waste, move earth, construct a barrier system, and construct a permanent cap on the Property as needed, and may place, keep and operate machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other item which may be used in connection with response activities undertaken for the Site, including the implementation of the design plan, on the Property.

3. The Steering Committee agrees to indemnify the Owner for liability or damages suffered by Owner arising from the access to or use of the Property by the Steering Committee

or their agents to the extent such liability is caused by the negligence of the Steering Committee or their agents, excepting, however, that this Agreement is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York, or the United States of America, regarding the liability or pro rata share of liability attributable to any party, for response costs associated with the Site or the Property, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

4. This Agreement shall touch and concern and run with the Property, and all its terms, covenants and conditions shall be binding upon and inure to the benefit of the parties hereto, their legal representatives, successors and assigns.

5. The Steering Committee shall give the Owner advance notice of its intent to enter the Property to commence response activities. The Owner shall not interfere with the response activities of the Steering Committee or its agents on the Property.

6. Owner warrants that he has good title to the Property and the right and power to enter into this Agreement.


7. This Agreement shall be construed in accordance with the laws of the State of New York, and shall not be modified except by signed, written agreement of the parties.

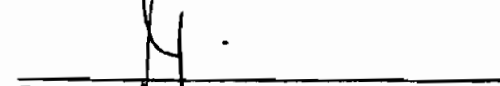
8. The terms of this Agreement shall expire only upon the completion of response activities at the Pfohl Brothers Landfill Site.

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement.

PFOHL BROTHERS LANDFILL
SITE STEERING COMMITTEE

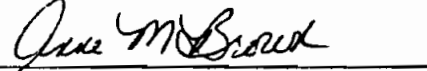
AERO LAND, INC.

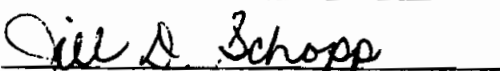
By: 
Michael Percival, Secretary

By: 
Jerome Hirsch, President

Sworn to and subscribed before me 2000
this 21 day of JAN, 1999.

Sworn to and subscribed before me
this 5 day of Jan, 1999. 2000


Notary Public
My Commission Expires:


Notary Public
My Commission Expires:

ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 02/07/2003

2000

ACCESS AGREEMENT

THIS AGREEMENT is by and between Stuart Jenkins of 42 Willowbrook Drive, Buffalo, NY 14221, ("Owner") and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A attached hereto (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, Owner holds fee title to all those tracts or parcels of land situated in the Town of Cheektowaga, Erie County, New York, designated as Tax Map. 92-030-9.12 (hereinafter referred to as the "Property");

WHEREAS, the Property is located on or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by the New York State Department of Environmental Conservation ("NYDEC");

WHEREAS, the NYDEC has issued a Record of Decision, dated February 1992, setting forth the selected remedial action plan for the Site;

WHEREAS, the Steering Committee has engaged in response activities at the Site, including interim remedial measures, recently has submitted a final design plan to the NYDEC to remediate the Site, and intends to enter into a consent order with NYDEC to remediate the Site;

WHEREAS, in order to perform certain response activities at the Site and the Property including the implementation of the design plan, the Steering Committee seeks permission to enter onto the Property and perform response activities and work for purposes of remediating the Site.

NOW, THEREFORE, in consideration of one dollar (\$1.00) and other good and valuable consideration paid to the Owner by the Steering Committee, the receipt of which is hereby acknowledged, the parties mutually agree and intend to be bound as follows:

1. Owner hereby grants to the Steering Committee, its successors, assigns, representatives, employees, contractors and other authorized designees the right to access to the Property for all response activities undertaken in connection with the Site, including the right to enter the Property to perform the work described in the design plan.

2. The Steering Committee may sample, clear, excavate, consolidate waste, move earth, construct a barrier system, and construct a permanent cap on the Property as needed, and may place, keep and operate machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other item which may be used in connection with response activities undertaken for the Site, including the implementation of the design plan, on the Property.

3. The Steering Committee agrees to indemnify the Owner for liability or damages suffered by Owner arising from the access to or use of the Property by the Steering Committee

or their agents to the extent such liability is caused by the negligence of the Steering Committee or their agents, excepting, however, that this Agreement is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York, or the United States of America, regarding the liability or pro rata share of liability attributable to any party, for response costs associated with the Site or the Property, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

4. This Agreement shall touch and concern and run with the Property, and all its terms, covenants and conditions shall be binding upon and inure to the benefit of the parties hereto, their legal representatives, successors and assigns.

5. The Steering Committee shall give the Owner advance notice of its intent to enter the Property to commence response activities. The Owner shall not interfere with the response activities of the Steering Committee or its agents on the Property.

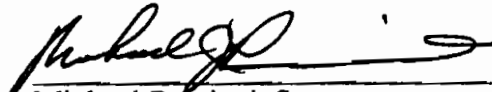
6. Owner warrants that he has good title to the Property and the right and power to enter into this Agreement.

7. This Agreement shall be construed in accordance with the laws of the State of New York, and shall not be modified except by signed, written agreement of the parties.

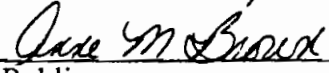
8. The terms of this Agreement shall expire only upon the completion of response activities at the Pfohl Brothers Landfill Site.

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement.


PFOHL BROTHERS LANDFILL
SITE STEERING COMMITTEE

By: 
Michael Percival, Secretary

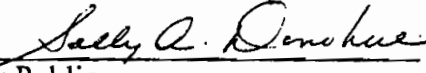
Sworn to and subscribed before me
this 25 day of May, 2000.


Notary Public
My Commission Expires:

ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 02/07/2003


Stuart Jenkins

Sworn to and subscribed before me
this 3RD day of May, 2000.


Notary Public
My Commission Expires:

Sally A. Donohue
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 08/31/01

APPENDIX A — Pfohl Brothers Landfill Site Steering Committee

AlliedSignal Inc.

American Standard

Buffalo Forge Co.

CBS Corp.

Calspan Corp.

Carborundum Co.

Curtiss-Wright Corp.

Dresser Industries Inc.

E.I. DuPont de Nemours & Co.

Ford Motor Co.

General Motors Corp.

Litton Systems, Inc.

New York State Electric & Gas

Niagara Mohawk Power Co.

Occidental Chemical Corp.

Pratt & Lambert

Textron Inc.

Trico Products

Warner Lambert Co.

Waste Management Inc.

**AGREEMENT FOR ACCESS TO NEW YORK STATE ELECTRIC & GAS
CORPORATION PROPERTY & EASEMENT AREA**

.....

THIS ACCESS AGREEMENT made as of the 1st day of January, 2000
by and between NEW YORK STATE ELECTRIC & GAS CORPORATION, a
corporation organized under the laws of the State of New York, and the Pfohl Brothers
Landfill Site Steering Committee, whose members are identified on Appendix A
(hereinafter referred to as "the Committee").

WITNESSETH:

Whereas, NYSEG owns a certain parcel of land located in the Town of
Cheektowaga, County of Erie, State of New York (the "Property"); and

Whereas, NYSEG owns, operates and maintains an overhead electric transmission
line located on the Property, which line includes, without limitation, structures, overhead
wires, cables, cross arms, guys, braces and other facilities, appurtenances and equipment
(collectively hereinafter referred to as the "Line"); and

Whereas, the Property is located or adjacent to what is commonly referred to as
the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive
hazardous waste disposal site by New York State Department of Environmental
Conservation ("NYDEC"); and

Whereas, the NYDEC has issued a Record of Decision, dated February 1992,
setting forth the selected remedial action plan for the Site; and

Whereas, the Committee has engaged in response activities at the Site, recently
has submitted a 100% Design Plan to the NYDEC to remediate the Site, and intends to

submit to NYDEC for remediation of the Site and final design plan, including a workplan and detailed designs, plans, specifications and drawings (hereinafter collectively referred to as the "Design Plan," which in its entirety shall, as finalized, be incorporated herein by reference); and

Whereas, in order to perform certain response activities at the Site and the Property pursuant to the Design Plan, the Committee seeks permission to enter upon and have access to the Property through and by its representatives, contractors, consultants and agents acting at its direction (hereinafter collectively included within the term "Committee") and perform response activities and work in accordance with and limited to the activities and work detailed in the Design Plan for purposes of remediating the Site; and

Whereas, NYSEG is willing to permit such access upon the terms and conditions set forth herein;

Now, therefore, in consideration of the premises and covenants set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, NYSEG and the Committee, agree and intend to be bound as follows:

1. NYSEG hereby grants to the Committee the right to enter upon the Property for the purpose of performing on the Site the following activities in accordance with the plans and specifications and in the manner prescribed in the Design Plan:

- (a) excavation of landfill waste;
- (b) excavation and/or sampling to delineate the areal extent of landfill waste;

- (c) regrading;
- (d) ~~perimeter swale construction~~
~~installation of monitoring wells;~~
- (e) periodic sampling of the monitoring wells;
- (f) access for wetlands construction; and
- (g) access to adjacent properties on the Site.

10/2/00 Michael S. Szezel
Huber Lawrence + Abel
counsel for NYSEG
10/27/00
MICHAEL J. PERCIN
MJP

Each occasion of entrance on the Property pursuant to the access granted by this Agreement, and every activity performed in connection therewith, shall be carried on subject to the terms and conditions of this Agreement, a copy of which will be provided by the Committee to each person, entity, representative, contractor, consultant or agent who enters the Property in connection with the Design Plan activities.

2. The Committee recognizes and understands that the Property upon which access is granted is an electric transmission right-of-way or easement, and the Committee shall comply with the terms and conditions set forth in Appendix B to this Agreement, entitled "Special Conditions for Work on Electric Transmission Rights-of-Way." The Committee shall take all necessary steps to ensure that the terms and conditions, including minimum Line clearance requirements, set forth in Appendix B are maintained at all times by persons, equipment and vehicles entering the Property pursuant to this Agreement.

If NYSEG determines that the minimum clearance specified in Appendix B is not being maintained during the course of the activities conducted on the Property by the Committee, then NYSEG may at its option order all work on the Property to stop until such time as the Committee has taken reasonable and necessary measures to ensure that NYSEG's equipment and facilities are protected from incursions within the required area

of clearance and that the terms and conditions of Appendix B are being and will be satisfied.

3. The Committee is aware that a static electric charge may exist on ungrounded metal objects located in the vicinity of electric transmission lines. The Committee shall develop and implement working procedures to mitigate any static electric charge, which develops, on any metal object located on the Property and such procedures shall comply with all applicable industry standards.

4. NYSEG, at its election and expense but without obligation on its part, may have an inspector present whenever any activities are conducted on the Property pursuant to this Agreement, and such inspector shall have the right and authority to require the modification or cessation of any such activities, when such activities are not being conducted in conformance with the provisions of this Agreement, are contrary to or in excess of the purposes set forth in the NYDEC approved Design Plan, or are being conducted in a manner which presents an unreasonable risk of harm to NYSEG's Line, the Property, or any person. The presence or absence on any occasion of any inspector of NYSEG shall not constitute a waiver of this provision as to any subsequent occasions of access.

5. It is understood and agreed that no vested right in NYSEG's property is granted or conveyed by this Agreement and the Committee recognizes that the access authorized hereunder is granted subject to any and all outstanding leases, tenancies, easements, licenses, encumbrances, liens, conditions, restrictions and/or reservations which apply to NYSEG's ownership of the Property.

6. The Committee shall not do any blasting on the Property without the prior written consent of NYSEG, which consent shall not relieve the Committee of liability for personal injury, death, property damage or property destruction, interruption of electrical service and any related damages caused by such blasting.

7. NYSEG reserves the right to use the Property at any time for any purpose whatsoever, including, without limitation, the construction, reconstruction, operations, inspection, maintenance, repair, replacement, removal and/or relocation of NYSEG's Line upon, over, under and through the Property. The Committee shall not interfere with NYSEG's use of the Property. NYSEG shall not interfere with the response activities of the Committee on the Property, but in the event NYSEG needs to use the Property to ensure the integrity of NYSEG's line or to ensure the continued transmission of electricity, NYSEG will have priority of access and use.

The Committee agrees that any fencing which it erects on the Property shall be temporary and shall not obstruct or interfere with NYSEG's operation of, or access to, NYSEG's Line, which shall at all time have priority over any other use of the Property, including activities undertaken and rights granted under this Agreement.

— The rights granted under this Agreement shall be subject and subordinate to the paramount right of NYSEG to occupy and use the whole or any part of the Property, and NYSEG's right to authorize the occupancy or use by others of any portion or portions of the Property as it deems necessary, to ensure the integrity of NYSEG's line or to ensure the continued transmission of electricity.

The Committee agrees that it will not take, or cause to be taken, any action on the Property that will interfere with or adversely affect NYSEG's operations on the Property.

The Committee will conduct its activities on the subject Property in such a manner as to:

(a) not restrict access by NYSEG's trucks and equipment; (b) not restrict, alter or otherwise affect drainage patterns or grading, except insofar as is specifically required and permitted within the Design Plan, which NYSEG acknowledges it has reviewed and approved; (c) not alter, damage, or interfere with NYSEG's Line; and (d) not permit or restrict vehicular traffic along the Property.

8. The rights and obligations granted in the Committee under this Agreement are personal to the Committee. The Committee shall not assign this Agreement, or any benefit or burden hereunder, without the prior written consent of NYSEG, which consent will not unreasonably be withheld.

9. All persons or entities to whom the Committee provides access to the Property under this Agreement will provide, to the Committee's satisfaction, necessary, desirable and reasonable insurance coverages commensurate with all activities to be undertaken by them, and to ensure against all conditions to be encountered by them, in connection with their activities on the Property. Proof of such insurance coverage will be provided in accordance with the Committee's contracts with such persons or entities. The insurance coverages of such persons or entities whose activities will involve access to or activity on the Property will expressly name NYSEG as an insured and beneficiary.

10. The Committee shall indemnify, hold harmless and defend NYSEG against any and all liabilities, lawsuits, damages, costs (including, without limitation, reasonable attorney's fees), expenses, claims, demands, suits, assessments, recoveries, judgments, executions, fines or penalties arising out of the Committee's entrance on, use or occupation of or work on the Property. This Agreement, however, is not intended to, nor

does it, relate to or affect any parties' rights or obligations to any other party, the State of New York or the United States of America, regarding the liability or pro rata share of liability attributable to any party, or response costs associated with the Site, all such --- rights or obligations being unrelated and unaffected by the terms of this Agreement.

11. Within a reasonable time thereafter, NYSEG shall inform the Committee in writing of receipt of any claims or potential claims, demands for suits, assessments, demands for fines or penalties, or other lawsuits or damages arising out of or otherwise connected with this Agreement.

12. Notwithstanding any other provisions of this Agreement, in the Committee's use of the Property, the Committee shall comply with all applicable laws, ordinances, rules, regulations, orders, decisions, judgments, rulings and industry standards, including without limitation: (a) the Occupational Safety and Health Act of 1970, 29 U.S.C. §651 et. Seq.; (b) the High Voltage Proximity Act, New York Labor Law §202-h; and (c) the National Electrical Safety Code (ANSI C2), as each may be amended or superseded from time to time.

13. The failure of any part to enforce or insist on any of the terms or conditions of this Agreement, or its waiver of the same in any instance or instances, shall not be construed as a general waiver or relinquishment of any such term or condition, but the same shall be and remain at all times in full force and effect.

14. This Agreement, including its recitals, constitutes the entire understanding of the parties with respect to the subject matter hereof. Any modification of this Agreement shall be in writing and shall be signed by an authorized representative of each party hereto before having any force or effect.

15. Except as provided expressly herein, nothing in this Agreement in any way estops, bars or otherwise prevents the parties from asserting any and all claims against each other or against any third-party regarding environmental conditions on or around the Property, and nothing herein shall be construed as a waiver of any cause of action, claim, demand, or defense the parties hereto might otherwise have under statutory law, common law, contract or otherwise against each other or against any third-party.

16. Notwithstanding any provisions to the contrary in this Agreement, no party hereto shall waive any privilege or any other defenses it may have based on any information, oral or otherwise, disclosed, revealed, given to either party by the other, or otherwise made known, as a result of the activities arising from this Agreement.

17. The parties to this Agreement hereby submit and consent to the exclusive jurisdiction of the Supreme Court of the State of New York for Erie County, and of the Federal District Court for the Western District of New York, in any action brought to enforce (other otherwise relating to) this Agreement. In addition, the parties hereby agree that venue shall be proper in each of the said courts.

18. Nothing in this Agreement is intended to excuse, indemnify or hold any party harmless from any liability or responsibility such party might have in any way connected with the Property prior to the time this Agreement is granted, including but not limited to any liability or responsibility any party might have for preexisting environmental conditions at the Property.

19. NYSEG warrants that it has good title to the Property and has the right and power to enter into and perform this Agreement. The Committee warrants that it has the right and power to enter into and perform this Agreement.

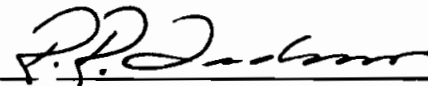
20. This Agreement shall touch and run with Property, and all of its terms, covenants and conditions shall be binding on and inure to the benefit of the parties hereto, their legal representatives, and successors.

21. This Agreement shall become effective immediately and shall terminate on acceptance by NYDEC of the Committee's certification that construction of the remedy has been completed in accordance with the Design Plan. The parties contemplate that this Agreement may be renewed to facilitate the completion of the Committee's obligations for operation and maintenance, and if requested by either party, the parties shall engage in good faith to accomplish such a renewal of this Agreement.

22. Prior to commencing any activities on the Property and again on final completion of such activities, the Committee shall notify NYSEG.

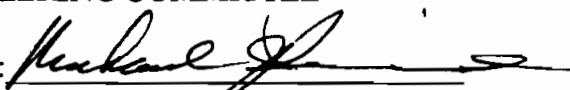
In Witness Whereof, the parties hereto have duly executed this Agreement as of the day and year first above written.

NEW YORK STATE ELECTRIC & GAS CORPORATION

By: 

Title: Sr. Vice President

PFOHL BROTHERS LANDFILL SITE
STEERING COMMITTEE

By: 
Secretary to the Pfohl
Brothers Landfill Site
Site Steering Committee

Appendix B

SPECIAL CONDITIONS FOR WORK ON ELECTRIC TRANSMISSION RIGHTS OF WAY

1. The work conducted on an electric transmission right of way or easement (collectively referred to hereinafter as "ROW") shall be performed in compliance with the High Voltage Proximity Act. The Committee shall take all necessary steps to insure that minimum line clearances are maintained by all persons, equipment and vehicles entering the Property as follows:

Voltage	Minimum Clearance
50 Kv or less	10 feet
115 Kv	15 feet
230 Kv	17 feet
345 Kv	20 feet

2. All Equipment which is operated under or near any electrical conductors shall be effectively grounded as follows:

GROUNDING SPECIFICATIONS

Extreme caution shall be exercised while working in the vicinity of New York State Electric & Gas Corporation's electric transmission towers, poles and/or underground facilities so as not to adversely affect, in any manner whatsoever, the structural stability of said towers and/or facilities. All equipment used in the work area which could approach nearer than twenty-five (25') to all energized electric power line or power facility, located overhead or underground, shall be grounded in order to protect persons and property. A good ground connection shall be securely attached to all equipment utilized at the work site and shall not be removed until the boom or any other substantial extension of all mobile equipment has been removed from the area of the work. All equipment used to make grounds shall be furnished at the sole cost and expense of the party performing the work, who shall also be responsible for determining the adequacy of all grounding arrangements utilized in the work area. However, the minimum steps that must be taken to effectively ground all equipment utilized in the work area are as follows:

- (1) All such equipment shall be provided with a permanent clamp for convenient and effective attachment to a grounding conductor.
- (2) The cable connecting the clamp to an adequate ground shall be equivalent to a No.2/0 AWG or larger copper cable approximately 50 to

100 feet long, extra flexible, with 600 volt covering for abrasive protection and with terminal parts that will ensure a proper connection.

- (3) Station grounds, water hydrants, metallic pipe water systems, common central wire or steel tower earth footings provide grounds that are likely to be adequate in order of preference listed. When such grounds are not available, anchor rods, temporarily driven, or auger-type grounds shall be used to secure a low-resistance ground.

The above-mentioned recommendations are suggested by NYSEG as minimum requirements only; a NYSEG inspector may review compliance with these minimum requirements prior to commencement of construction of activities on said premises.

3. Equipment which has the capability of extending within the wire clear zone established in Paragraph 1 above shall have a warning sign attached identifying the potential hazard.
4. No equipment utilized in site preparation grading, etc. shall be operated within twenty (20) feet of any transmission line nor shall adversely affect any supporting structure.
5. There shall be no changes in grade within the right of way unless approved by NYSEG.
6. UFPO (800-962-7962) shall be notified two days prior to any excavation specifically for but not limited to, the purpose of identifying and locating NYSEG's facilities or underground facilities of other parties. The Committee shall use extreme caution during excavation and installation of the facilities, if any, such that NYSEG's facilities are not disturbed. The Committee shall be responsible for all repair costs of damages incurred that are a result of the installation of the facilities, if any, or their future maintenance.
7. All soil not used to backfill the excavation shall be removed from the ROW and/or disposed of in accordance with applicable regulatory requirements, including the Consent Order and 100% Design Plan.
8. The site preparation procedures shall include no activities that cause material to migrate or be placed or disposed off the boundaries of NYSEG's ROW.
9. No activities shall be permitted which compromise the electrical or structural integrity of overhead transmission facilities.
10. NYSEG reserves the right to review any construction drawings and specifications as well as review and inspect the activities being carried on with ROW.
11. Markers shall be placed on each side of the ROW locating the buried facilities.

12. No structures of any kind shall be constructed on the ROW.
13. The Energy Delivery Manager shall be notified in writing ten (10) days before any work is started on the ROW. The address is:

Energy Delivery Manager New York State Electric & Gas
Corporation

150 Erie Street Lancaster, NY 14086

14. If any terms or provisions of this Attachment are inconsistent with the Agreement, the terms and conditions of the Agreement shall have precedence.

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AGREEMENT FOR ACCESS TO NIAGARA MOHAWK PROPERTY

THIS ACCESS AGREEMENT made as of the 7th day of AUGUST, 2000 by and between NIAGARA MOHAWK POWER CORPORATION, a corporation organized under the laws of the State of New York, having its principal office located at Syracuse, New York, (hereinafter referred to as "Niagara Mohawk"), and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A (hereinafter referred to as "the Committee").

WITNESSETH:

Whereas, Niagara Mohawk owns a certain parcel of land described as Tax Map 81.04, Block 1, Parcel 25, located in the Town of Cheektowaga, County of Erie, State of New York (the "Property"); and

Whereas, Niagara Mohawks owns, operates and maintains an overhead electric transmission line located on the Property, which line includes, without limitation, structures, overhead wires, cables, cross arms, guys, braces and other facilities, appurtenances and equipment (collectively hereinafter referred to as the "Line"); and

Whereas, the Property is located or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by New York State Department of Environmental Conservation ("NYDEC"); and

Whereas, the NYDEC has issued a Record of Decision, dated February 1992,

setting forth the selected remedial action plan for the Site; and

Whereas, the Committee has engaged in response activities at the Site, recently has submitted a 100% Design Plan to the NYDEC to remediate the Site, and intends to submit to NYDEC for remediation of the Site a final design plan, including a workplan and detailed designs, plans, specifications and drawings (hereinafter collectively referred to as the "Design Plan," which in its entirety shall, as finalized, be incorporated herein by reference); and

Whereas, in order to perform certain response activities at the Site and the Property pursuant to the Design Plan, the Committee seeks permission to enter upon and have access to the Property through and by its representatives, contractors, consultants and agents acting at its direction (hereinafter collectively included within the term "Committee") and perform response activities and work in accordance with and limited to the activities and work detailed in the Design Plan for purposes of remediating the Site; and

Whereas, Niagara Mohawk is willing to permit such access upon the terms and conditions set forth herein;

Now, therefore, in consideration of the premises and covenants set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, Niagara Mohawk and the Committee, agree and intend to be bound as follows:

1. Niagara Mohawk hereby grants to the Committee the right to enter upon the Property for the purpose of performing on the Site the following activities in accordance with the plans and specifications and in the manner prescribed in the Design Plan:

- (a) excavation of landfill waste;
- (b) excavation and/or sampling to delineate the areal extent of landfill waste;
- (c) regrading;
- (d) installation of monitoring wells;
- (e) periodic sampling of the monitoring wells;
- (f) access for wetlands construction; and
- (g) access to adjacent properties on the Site.

Each occasion of entrance on the Property pursuant to the access granted by this Agreement, and every activity performed in connection therewith, shall be carried out subject to the terms and conditions of this Agreement, a copy of which will be provided by the Committee to each person, entity, representative, contractor, consultant or agent who enters the Property in connection with the Design Plan activities.

2. The Committee recognizes and understands that the Property upon which access is granted is an electric transmission right-of-way or easement, and the Committee shall comply with the terms and conditions set forth in Appendix B to this Agreement, entitled "Special Conditions for Work on Electric Transmission Rights-of-Way." The Committee shall take all necessary steps to ensure that the terms and conditions, including minimum Line clearance requirements, set forth in Appendix B are maintained at all times by persons, equipment and vehicles entering the Property pursuant to this Agreement.

If Niagara Mohawk determines that the minimum clearance specified in Appendix B is not being maintained during the course of the activities conducted on the Property by

the Committee, then Niagara Mohawk may at its option order all work on the Property to stop until such time as the Committee has taken reasonable and necessary measures to ensure that Niagara Mohawk's equipment and facilities are protected from incursions within the required area of clearance and that the terms and conditions of Appendix B are being and will be satisfied.

3. The Committee is aware that a static electric charge may exist on ungrounded metal objects located in the vicinity of electric transmission lines. The Committee shall develop and implement working procedures to mitigate any static electric charge which develops on any metal object located on the Property and such procedures shall comply with all applicable industry standards.

4. Niagara Mohawk, at its election and expense but without obligation on its part, may have an inspector present whenever any activities are conducted on the Property pursuant to this Agreement, and such inspector shall have the right and authority to require the modification or cessation of any such activities, when such activities are not being conducted in conformance with the provisions of this Agreement, are contrary to or in excess of the purposes set forth in the NYDEC-approved Design Plan, or are being conducted in a manner which presents an unreasonable risk of harm to Niagara Mohawk's Line, the Property, or any person. The presence or absence on any occasion of any inspector of Niagara Mohawk shall not constitute a waiver of this provision as to any subsequent occasions of access.

5. It is understood and agreed that no vested right in Niagara Mohawk's property is granted or conveyed by this Agreement and the Committee recognizes that the

access authorized hereunder is granted subject to any and all outstanding leases, tenancies, easements, licenses, encumbrances, liens, conditions, restrictions and/or reservations which apply to Niagara Mohawk's ownership of the Property.

6. The Committee shall not do any blasting on the Property without the prior written consent of Niagara Mohawk, which consent shall not relieve the Committee of liability for personal injury, death, property damage or property destruction, interruption of electrical service and any related damages caused by such blasting.

7. Niagara Mohawk reserves the right to use the Property at any time for any purpose whatsoever, including, without limitation, the construction, reconstruction, operations, inspection, maintenance, repair, replacement, removal and/or relocation of Niagara Mohawk's Line upon, over, under and through the Property. The Committee shall not interfere with Niagara Mohawk's use of the Property. Niagara Mohawk shall not interfere with the response activities of the Committee on the Property, but in the event Niagara Mohawk needs to use the Property to ensure the integrity of Niagara Mohawk's line or to ensure the continued transmission of electricity, Niagara Mohawk will have priority of access and use.

The Committee agrees that any fencing which it erects on the Property shall be temporary and shall not obstruct or interfere with Niagara Mohawk's operation of, or access to, Niagara Mohawk's Line, which shall at all times have priority over any other use of the Property, including activities undertaken and rights granted under this Agreement.

The rights granted under this Agreement shall be subject and subordinate to the paramount right of Niagara Mohawk to occupy and use the whole or any part of the

Property, and Niagara Mohawk's right to authorize the occupancy or use by others of any portion or portions of the Property as it deems necessary, to ensure the integrity of Niagara Mohawk's line or to ensure the continued transmission of electricity.

The Committee agrees that it will not take, or cause to be taken, any action on the Property that will interfere with or adversely affect Niagara Mohawk's operations on the Property. The Committee will conduct its activities on the subject Property in such a manner as to: (a) not restrict access by Niagara Mohawk's trucks and equipment; (b) not restrict, alter or otherwise affect drainage patterns or grading, except insofar as is specifically required and permitted within the Design Plan, which Niagara Mohawk acknowledges it has reviewed and approved; (c) not alter, damage, or interfere with Niagara Mohawk's Line; and (d) not permit or restrict vehicular traffic along the Property.

8. The rights and obligations granted to the Committee under this Agreement are personal to the Committee. The Committee shall not assign this Agreement, or any benefit or burden hereunder, without the prior written consent of Niagara Mohawk, which consent will not unreasonably be withheld.

9. All persons or entities to whom the Committee provides access to the Property under this Agreement will provide, to the Committee's satisfaction, necessary, desirable and reasonable insurance coverages commensurate with all activities to be undertaken by them, and to ensure against all conditions to be encountered by them, in connection with their activities on the Property. Proof of such insurance coverages will be provided in accordance with the Committee's contracts with such persons or entities. The insurance coverages of such persons or entities whose activities will involve access to or

activity on the Property will expressly name Niagara Mohawk as an insured and beneficiary.

10. The Committee shall indemnify, hold harmless and defend Niagara Mohawk against any and all liabilities, lawsuits, damages, costs (including, without limitation, reasonable attorneys' fees), expenses, claims, demands, suits, assessments, recoveries, judgments, executions, fines or penalties arising out of the Committee's entrance on, use or occupation of or work on the Property. This Agreement, however, is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York or the United States of America, regarding the liability or pro rata share of liability attributable to any party, or response costs associated with the Site, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

11. Within a reasonable time thereafter, Niagara Mohawk shall inform the Committee in writing of receipt of any claims or potential claims, demands for suits, assessments, demands for fines or penalties, or other lawsuits or damages arising out of or otherwise connected with this Agreement.

12. Notwithstanding any other provisions of this Agreement, in the Committee's use of the Property, the Committee shall comply with all applicable laws, ordinances, rules, regulations, orders, decisions, judgments, rulings and industry standards, including without limitation: (a) the Occupational Safety and Health Act of 1970, 29 U.S.C. §651 et. seq.; (b) the High Voltage Proximity Act, New York Labor Law §202-h; and (c) the National Electrical Safety Code (ANSI C2), as each may be amended or superseded from time to time.

13. The failure of any party to enforce or insist on any of the terms or conditions

of this Agreement, or its waiver of the same in any instance or instances, shall not be construed as a general waiver or relinquishment of any such term or condition, but the same shall be and remain at all times in full force and effect.

14. This Agreement, including its recitals, constitutes the entire understanding of the parties with respect to the subject matter hereof. Any modification of this Agreement shall be in writing and shall be signed by an authorized representative of each party hereto before having any force or effect.

15. Except as provided expressly herein, nothing in this Agreement in any way estops, bars or otherwise prevents the parties from asserting any and all claims against each other or against any third-party regarding environmental conditions on or around the Property, and nothing herein shall be construed as a waiver of any cause of action, claim, demand, or defense the parties hereto might otherwise have under statutory law, common law, contract or otherwise against each other or against any third-party.

16. Notwithstanding any provisions to the contrary in this Agreement, no party hereto shall waive any privilege or any other defenses it may have based on any information, oral or otherwise, disclosed, revealed, given to either party by the other, or otherwise made known, as a result of the activities arising from this Agreement.

17. The parties to this Agreement hereby submit and consent to the exclusive jurisdiction of the Supreme Court of the State of New York for Erie County, and of the Federal District Court for the Western District of New York, in any action brought to enforce (or otherwise relating to) this Agreement. In addition, the parties hereby agree that venue shall be proper in each of the said courts.

18. Nothing in this Agreement is intended to excuse, indemnify or hold any party harmless from any liability or responsibility such party might have in any way connected with the Property prior to the time this Agreement is granted, including but not limited to any liability or responsibility any party might have for preexisting environmental conditions at the Property.

19. Niagara Mohawk warrants that it has good title to the Property and has the right and power to enter into and perform this Agreement. The Committee warrants that it has the right and power to enter into and perform this Agreement.

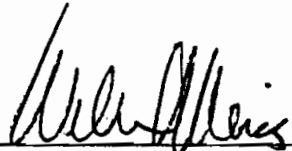
20. This Agreement shall touch and run with the Property, and all of its terms, covenants and conditions shall be binding on and inure to the benefit of the parties hereto, their legal representatives, and successors.

21. This Agreement shall become effective immediately and shall terminate on acceptance by NYDEC of the Committee's certification that construction of the remedy has been completed in accordance with the Design Plan. The parties contemplate that this Agreement may be renewed to facilitate the completion of the Committee's obligations for operation and maintenance, and if requested by either party, the parties shall engage in good faith to accomplish such a renewal of this Agreement.

22. Prior to commencing any activities on the Property and again on final completion of such activities, the Committee shall notify Niagara Mohawk.

In Witness Whereof, the parties hereto have duly executed this Agreement as of the day and year first above written.

NIAGARA MOHAWK POWER CORPORATION

By: 

William C. Weiss, Esq.
Title: Attorney

PFOHL BROTHERS LANDFILL SITE
STEERING COMMITTEE

By: 

Secretary to the Pfohl Brothers Landfill
Site Steering Committee

Appendix A

AlliedSignal, Inc.
n/k/a Honeywell International Inc.

American Standard Inc.

Buffalo Forge Co./Howden Buffalo, Inc.

Calspan Corporation

BP America Inc.
(Carborundum Company)

Curtiss-Wright Corporation

Dresser Industries, Inc.

E.I. du PONT de NEMOURS & CO., INC.

Ford Motor Company

General Motors Corporation

Litton Systems, Inc.

New York State Electric & Gas

Niagara Mohawk Power Corporation

Occidental Chemical Corporation

Textron, Inc.

The Sherwin Williams Company as successor
in interest to Pratt & Lambert, Inc.

Trico Products Corporation

Warner-Lambert Company for American
Optical

Waste Management of New Jersey, Inc.

Waste Management of New York, LLC

VIACOM Inc., successor by merger to
CBS Corporation

Appendix B

**SPECIAL CONDITIONS FOR WORK ON
ELECTRIC TRANSMISSION RIGHTS OF WAY**

1. The work conducted on an electric transmission right of way or easement (collectively referred to hereinafter as "ROW") shall be performed in compliance with the High Voltage Proximity Act. The Committee shall take all necessary steps to insure that minimum line clearances are maintained by all persons, equipment and vehicles entering the Property as follows:

Voltage	Minimum Clearance
50 Kv or less	10 feet
115 Kv	15 feet
230 Kv	17 feet
345 Kv	20 feet

2. All Equipment which is operated under or near any electrical conductors shall be effectively grounded as follows:

GROUNDING SPECIFICATIONS

Extreme caution shall be exercised while working in the vicinity of Niagara Mohawk Power Corporation's electric transmission towers, poles and/or underground facilities so as not to diversely affect, in any manner whatsoever, the structural stability of said towers and/or facilities. All equipment used in the work area which could approach nearer than twenty-five feet (25') to an energized electric power line or power facility, located overhead or underground, shall be grounded in order to protect persons and property. A good ground connection shall be securely attached to all equipment utilized at the work site and shall not be removed until the boom or any other substantial extension of all mobile equipment has been removed from the area of the work. All equipment used to make grounds shall be furnished at the sole cost and expense of the party performing the work, who shall also be responsible for determining the adequacy of all grounding arrangements utilized in the work area. However, the minimum steps that must be taken to effectively ground all equipment utilized in the work area are as follows:

(1) All such equipment shall be provided with a permanent clamp for convenient and effective attachment to a grounding conductor.

(2) The cable connecting the clamp to an adequate ground shall be equivalent to a No. 2/0 AWG or larger copper cable approximately 50 to 100 feet long, extra flexible, with 600 volt covering for abrasive protection and with terminal parts that will ensure a proper connection.

(3) Station grounds, water hydrants, metallic pipe water systems, common neutral wire or steel tower earth footings provide grounds that are likely to be adequate in order of preference listed. When such grounds are not available, anchor rods, temporarily driven, or auger-type grounds shall be used to secure a low-resistance ground.

The above-mentioned recommendations are suggested by Niagara Mohawk Power Corporation as minimum requirements only; a Niagara Mohawk Corporation Inspector may review compliance with these minimum requirements prior to commencement of construction of activities on said premises.

3. Equipment which has the capability of extending within the wire clear zone established in Paragraph 1 above shall have a warning sign attached identifying the potential hazard.
4. No equipment utilized in site preparation grading, etc. shall be operated within ten (10) feet of any transmission line or within five (5) feet of any supporting structure.
5. There shall be no changes in grade within the right of way unless approved by Niagara Mohawk.
6. UFPO (800-962-7962) shall be notified two days prior to any excavation specifically for, but not limited to, the purpose of identifying and locating Niagara Mohawk's facilities or underground facilities of other parties. The Committee shall use extreme caution during excavation and installation of the facilities, if any, such that Niagara Mohawk's facilities are not disturbed. The Committee shall be responsible for all repair costs of damages incurred which are a result of the installation of the facilities, if any, or their future maintenance.
7. All soil not used to backfill the excavation shall be removed from the ROW and/or disposed of in accordance with applicable regulatory requirements, including the Consent Order and 100% Design Plan.
8. There shall be no blasting on ROW.
9. The site preparation procedures shall include no activities which cause material to migrate or be placed or disposed off the boundaries of Niagara Mohawk's ROW.
10. No activities shall be permitted which compromise the electrical or structural integrity of overhead transmission facilities.
11. Niagara Mohawk reserves the right to review any construction drawings and specifications as well as review and inspect the activities being carried on with ROW.
12. Markers shall be placed on each side of the ROW locating the buried facilities.
13. There shall be no excavation under the overhead lines within fifteen feet of the nearest wood member or guy anchor and/or twenty-five feet of the nearest steel member of a transmission line supporting structure.
14. No structures of any kind shall be constructed on the ROW.
15. The Superintendent of Area Transmission and distribution shall be notified in writing ten (10) days before any work is started on the ROW. The address is:

Superintendent T & D
Niagara Mohawk Power Corporation
Electric Operations Headquarters
300 Erie Boulevard West
Syracuse, New York 13202

16. If any terms or provisions of this Attachment are inconsistent with the Agreement, the terms and conditions of the Agreement shall have precedence.

ACCESS AGREEMENT

THIS AGREEMENT is by and between Fred P. Zelasko, 121 Foisset Avenue, Cheektowaga, NY 14225; Frederick T. ("Rick") Zelasko, 97 Beresford Drive, Williamsville, NY 14221; and M. Joy Zelasko, as administratrix of the Estate of Daniel Zelasko, 130 Pfohl Road, Cheektowaga, NY 15225, ("Owners"), and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A attached hereto (hereinafter referred to as the "Steering Committee").

WITNESSETH:

WHEREAS, Owners hold fee title to all those tracts or parcels of land situated north of Pfohl Road in the Town of Cheektowaga, Erie County, New York, designated as Tax Map. Nos. 81.04-2-9.212 and 81.04-2-9.22 (hereinafter referred to as the "Property");

WHEREAS, the Property is located on or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by the New York State Department of Environmental Conservation ("NYDEC");

WHEREAS, the NYDEC has issued a Record of Decision, dated February 1992, setting forth the selected remedial action plan for the Site;

WHEREAS, the Steering Committee has engaged in response activities at the Site, including interim remedial measures;

WHEREAS, the Steering Committee members and the NYDEC entered into an Order on Consent, dated April 9, 2001, by which the Steering Committee members, inter alia, will remediate the Site in accordance with the remedial design plan approved by NYDEC;

WHEREAS, in order to perform certain response activities at the Site and the Property including the implementation of the design plan, the Steering Committee seeks permission to enter onto the Property and perform response activities and work for purposes of remediating the Site;

WHEREAS, Owners take the position that they are executing this agreement for the sole purpose of facilitating and expediting remedial measures to be undertaken by the Steering Committee in accordance with the Order on Consent.

NOW, THEREFORE, in consideration of one dollar (\$1.00) and other good and valuable consideration paid to the Owners by the Steering Committee, the receipt of which is hereby acknowledged, the parties mutually agree and intend to be bound as follows:

1. Owners hereby grant to the Steering Committee, its successors, assigns, representatives, employees, agents and contractors the right to access to the Property for all response activities undertaken in connection with the Site, including the right to enter the Property to perform the work described in the design plan, subject to paragraph 7 hereof.

2. The Steering Committee may clear, excavate or sample the Property as needed and may place, keep and operate machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other item which may be used in connection with response activities undertaken for the Site, including the implementation of the design plan, on the Property.

3. The Steering Committee agrees to indemnify the Owners for liability or damages suffered by Owners arising from the access to or use of the Property by the Steering Committee or their agents to the extent such liability is caused by the negligence of the Steering Committee or their agents, excepting, however, that this Agreement is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York, or the United States of America, regarding the liability or pro rata share of liability attributable to any party, for response costs associated with the Site or the Property, all such rights or obligations being unrelated and unaffected by the terms of this Agreement. The Owners shall be added as an additional insured on the insurance policies of the Steering Committee's principal contractor for the remediation work, Severson Environmental Services, Inc.; certificates of insurance will be provided to the Owners.

** together with the Estate of Daniel Zelesko and its distributees*

4. This Agreement shall touch and concern and run with the Property, and all its terms, covenants and conditions shall be binding upon and inure to the benefit of the parties hereto, their legal representatives, successors and assigns.

INITIAL
HERE

Handwritten initials and signatures, including "J.B." and "MP".

5. The Steering Committee or its agent shall give the Owners advance notice of its intent to enter the Property to conduct response activities. The Steering Committee and its agents in conducting response activities will endeavor to minimize inconvenience to Owners, and the parties will coordinate regarding routes of ingress and egress. [A contact person for purposes of such coordination shall be designated by each party and shall initially be Thomas Christopher (ph.: 716-634-7751), of the Steering Committee's engineer Conestoga-Rovers and Associates, and Rick Zelasko (ph: 716-632-3866).] The Owner shall not interfere with the response activities of the Steering Committee or its agents on the Property.

6. Notices under this Agreement shall be in writing and directed to the following:

To the Steering Committee:

Michael Percival
de maximis, Inc.
33300 Five Mile Road, Suite 104
Livonia, MI 48154
Fax: 734-261-0298

To the Owners:

Rick Zelasko
c/o Zelasko Construction
136 Pfohl Road
Cheektowaga, NY 14225
Fax: 716-632-3866

7. The Steering Committee shall restore the land of the Property to a similar condition as it existed prior to when response activities on the Property began. In the event it

becomes necessary to excavate waste beneath a structure or to remove all or a portion of a structure on the Property, the parties agree to negotiate the arrangements relating thereto, in consultation with NYDEC as appropriate.

8. Fred P. Zelasko and Frederick T. Zelasko warrant that they have good title to the Property and the right and power to enter into this Agreement. M. Joy Zelasko, as administratrix of the Estate of Daniel Zelasko, warrants that she has good title to the Property and the right and power to enter into this Agreement, subject to such rights of title as may vest in the distributees of the Estate of Daniel Zelasko.

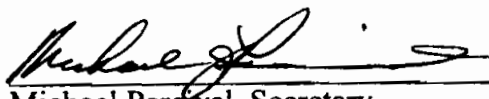
9. This Agreement shall be construed in accordance with the laws of the State of New York, and shall not be modified except by signed, written agreement of the parties.

10. The terms of this Agreement shall expire only upon the completion of response activities at the Pfohl Brothers Landfill Site.

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement.


PFOHL BROTHERS LANDFILL
SITE STEERING COMMITTEE

By:


Michael Percival, Secretary

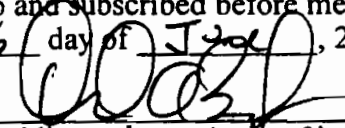

FRED P. ZELASKO

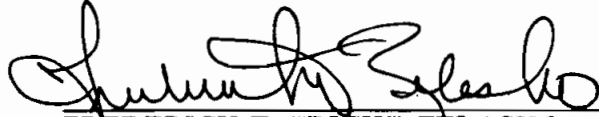
Sworn to and subscribed before me
this 21 day of June, 2001.


Notary Public
My Commission Expires:

ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 02/07/2003

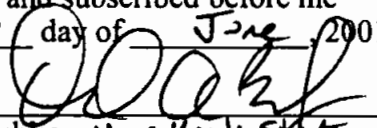
Sworn to and subscribed before me
this 6 day of July, 2001.

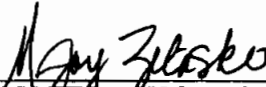

Notary Public, New York State
My Commission Expires: 8/31/05
Qualified in Erie Co.



FREDERICK T. ("RICK") ZELASKO

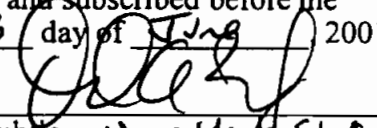
Sworn to and subscribed before me
this 6 day of June, 2001.


Notary Public, New York State
My Commission Expires: 8/31/05
Qualified in Erie Co.



M. JOY ZELASKO, Administratrix of the
Estate of Daniel Zelasko

Sworn to and subscribed before me
this 6 day of June, 2001.


Notary Public, New York State
My Commission Expires: 8/31/05
Qualified in Erie Co.

ACCESS AGREEMENT

THIS AGREEMENT is by and between the Estate of Adam G. Pfohl, of 83 Pfohl Road, Cheektowaga, NY 14225, ("Owner"), Elizabeth Catherine Werick, as executrix and beneficiary of the Estate of Adam G. Pfohl, and William Adam Pfohl, as beneficiary of the Estate of Adam G. Pfohl, and the Pfohl Brothers Landfill Site Steering Committee, whose members are identified on Appendix A attached hereto (hereinafter referred to as the "Steering Committee").

W I T N E S S E T H:

WHEREAS, Owner holds fee title to all that tract or parcel of land situated in the Town of Cheektowaga, Erie County, New York, designated as Tax Map. No. 81.04-1-26 (hereinafter referred to as the "Property");

WHEREAS, Elizabeth Catherine Werick is the executrix of the Estate of Adam G. Pfohl, and Elizabeth Catherine Werick and William Adam Pfohl are the only heirs of the Estate of Adam G. Pfohl;

WHEREAS, the Property is located on or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by the New York State Department of Environmental Conservation ("NYDEC");

WHEREAS, the NYDEC has issued a Record of Decision, dated February 1992, setting forth the selected remedial action plan for the Site;

WHEREAS, the Steering Committee has engaged in response activities at the Site, including interim remedial measures, recently has submitted a final design plan to the NYDEC to remediate the Site, and intends to enter into a consent order with NYDEC to remediate the Site;

WHEREAS, in order to perform certain response activities at the Site and the Property including the implementation of the design plan, the Steering Committee seeks permission to enter onto the Property and perform response activities and work for purposes of remediating the Site.

NOW, THEREFORE, in consideration of one dollar (\$1.00) and other good and valuable consideration paid to the Owner by the Steering Committee, the receipt of which is hereby acknowledged, the parties mutually agree and intend to be bound as follows:

1. Owner hereby grants to the Steering Committee, its successors, assigns, representatives, employees, contractors and other authorized designees the right to access to the Property for all response activities undertaken in connection with the Site, including the right to enter the Property to perform the work described in the design plan.
2. The Steering Committee may sample, clear, excavate, consolidate waste, move earth, construct a barrier system, and construct a permanent cap on the Property as needed, and may place, keep and operate machines, tools, equipment, excavated materials or materials to be used for filling purposes, fencing and any other item which may be used in connection with response activities undertaken for the Site, including the implementation of the design plan, on the Property.

3. The Steering Committee agrees to indemnify the Owner for liability or damages suffered by Owner arising from the access to or use of the Property by the Steering Committee or their agents to the extent such liability is caused by the negligence of the Steering Committee or their agents, excepting, however, that this Agreement is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York, or the United States of America, regarding the liability or pro rata share of liability attributable to any party, for response costs associated with the Site or the Property, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

4. This Agreement shall touch and concern and run with the Property, and all its terms, covenants and conditions shall be binding upon and inure to the benefit of the parties hereto, their legal representatives, successors and assigns.

5. The Steering Committee shall give the Owner advance notice of its intent to enter the Property to commence response activities. The Owner shall not interfere with the response activities of the Steering Committee or its agents on the Property.

6. Owner, Elizabeth Catherine Werick and William Adam Pfohl jointly and severally warrant that Owner has good title to the Property and the right and power to enter into this Agreement.

7. This Agreement shall be construed in accordance with the laws of the State of New York, and shall not be modified except by signed, written agreement of the parties.


8. The terms of this Agreement shall expire only upon the completion of response activities at the Pfohl Brothers Landfill Site.

9. This Agreement is meant to be entered contemporaneously with an Order on Consent with the New York State Department of Environmental Conservation. The Consent Order is contemplated to designate the "Owner" as an additional "Settling Owner" under the definitions contained in the Consent Order. In the event that the New York State Department of Environmental Conservation and "Owner" do not enter into the contemplated Order on Consent as aforesaid, this Agreement shall not be effective.

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement.

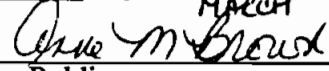
PFOHL BROTHERS LANDFILL
SITE STEERING COMMITTEE

By: 
Michael Percival, Secretary


William Adam Pfohl, as beneficiary of the
Estate of Adam G. Pfohl

Sworn to and subscribed before me
this 14 day of ~~February~~ March, 2001.

Sworn to and subscribed before me
this 14 day of February, 2001.


Notary Public
My Commission Expires:


Notary Public
My Commission Expires:

ANNE M. BROWN
Notary Public, Wayne County, MI
My Commission Expires 02/07/2003

ROBERT E. KNOER, ESQ.
Notary Public, State of NY
Qualified in Erie County
My Commission Expires 3/3/2002

Elizabeth Catherine Werick
Elizabeth Catherine Werick, as beneficiary of
the Estate of Adam G. Pfohl

Sworn to and subscribed before me
this 14th day of February, 2001.

ROBERT S. WICKER, Esq.
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 3/31/2002

Notary Public
My Commission Expires:

Elizabeth Catherine Werick
Estate of Adam G. Pfohl
by Elizabeth Catherine Werick, Executrix

Sworn to and subscribed before me
this 14th day of February, 2001.

ROBERT S. WICKER, Esq.
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 3/31/2002

Notary Public
My Commission Expires:

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APPENDIX A – Pfohl Brothers Landfill Site Steering Committee

AlliedSignal Inc. now known as Honeywell International Inc.

American Standard

Buffalo Forge Co.

Viacom Inc. (successor by merger to CBS Corporation)

Calspan Corp. (now known as Veridian Engineering, Inc.)

BP America Inc. for Carborundum Co.

Curtiss-Wright Corp.

Dresser Industries Inc.

E.I. DuPont de Nemours & Co.

Ford Motor Co.

General Motors Corp.

Litton Systems, Inc.

New York State Electric & Gas

Niagara Mohawk Power Corporation

Occidental Chemical Corp.

Pratt & Lambert

Textron Inc.

Trico Products

Warner-Lambert Company

Waste Management of New York LLC and
Waste Management of New Jersey Inc. for
Downing Container Service

 COPY

The Town of Cheektowaga



CHEEKTOWAGA TOWN HALL
3301 BROADWAY
CHEEKTOWAGA, NEW YORK 14227
(716) 686-3457
FAX (716) 686-3997

KEVIN G. SCHENK
DEPUTY TOWN ATTORNEY
JENNIFER A. RUNFOLA
DEPUTY TOWN ATTORNEY

MICHAEL J. STACHOWSKI
TOWN ATTORNEY

CONSTANCE M. PAOLETTI
ADMINISTRATIVE ASSISTANT -
LEGAL

December 8, 2005

William R. Pugh, Town Engineer
Town of Cheektowaga
275 Alexander Avenue
Cheektowaga, NY 14211

Re: **Pfohl Brothers Landfill Easements**

Dear Bill:

Enclosed herewith please find two (2) copies of each of the following referenced Pfohl Brothers Landfill operation and maintenance easements which were recorded in the Erie County Clerk's Office on the following dates in the following respective libers and pages:

<u>Property Owners(s)</u>	<u>S.B.L. #</u>	<u>Date Recorded</u>	<u>Liber</u>	<u>Page</u>
Roianne Preston & Martha Hage	81.04-1-24	11/9/04	11085	8232
Elizabeth McBride	✓ 82.03-4-10	11/9/04	11085	8239
✓ Paul Pfohl	✓ 81.04-1-27; ✓ 81.04-1-28.1; ✓ 81.04-2-9.1; ✓ 81.04-2-10.1; ✓ 81.04-2-11; ✓ 82.03-4-5; ✓ 82.03-4-7; ✓ 82.03-4-11	11/9/04	11085	8246
Paul M. Pfohl	✓ 82.03-4-11	11/9/04	11085	8255
Stuart Jenkins	✓ 82.03-4-9.12	11/9/04	11085	8262
NYS Electric & Gas Corp.	✓ 82.03-4-12	11/9/04	11085	8272
Aero Land, Inc.	✓ 82.03-4-9.11; ✓ 82.03-4-9.2	11/9/04	11085	8285
Niagara Mohawk Power Corp.	81.04-1-25	11/16/04	11086	1789
Davey Tree Expert Co.	93.01-1-5	4/13/05	11093	6285
✓ Estate of Adam G. Pfohl	✓ 81.04-1-26	10/21/05	11103	3676

William R. Pugh, Town Engineer
December 8, 2005
Page 2

In addition to the above easements, the Town of Cheektowaga will also be able to access the following publicly-owned properties to perform our operation and maintenance responsibilities:

Owner

New York State Thruway Authority
NYS Department of Transportation

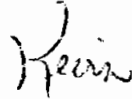
Erie Co. Dept. of Public Works

Property

New York State Thruway
Transit Road
Former RJ Corman Railroad line
Aero Drive

Very truly yours,

TOWN OF CHEEKTOWAGA
DEPARTMENT OF LAW



Kevin G. Schenk
Deputy Town Attorney

Encl.

RECEIVED

DEC 12 2005

**ENGINEERING
DEPT.**

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

PRESTON
ROIANNE
HAGE
MARTHA
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8232
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:09:54
Control # 200411090018

TT# TT 2004 008961
Employee ID EDF

COUNTY	\$	28.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	48.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



D110858232

Box #261

PROPERTY ACCESS EASEMENT
(81.04-1-24)

THIS INDENTURE, made and entered into as of the 23rd day of
December, in the year 2003, by and between

ROIANNE PRESTON and MARTHA HAGE, residing at 8582 Northwest
48th Avenue, Coconut Creek, FL 33063, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a
domestic municipal corporation having its principal office and place of business at the
Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of
New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the
Town and the Pfohl Brothers Steering Committee, the Town is responsible for
performing long-term operation and maintenance activities at the Pfohl Brothers
Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform these long-term operation and maintenance
activities, the Town requires an access easement from the Owner to enter her land to
perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance
work needs to be performed, and is willing to grant the Town the necessary rights to
enter her land for such purposes.

1672537
10

785 6 10

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Owner's land for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- groundwater quality inspection and testing
- hydraulic monitoring.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform such operation and maintenance activities.

RESERVING, to the Owner, hers successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

TO HAVE AND TO HOLD the rights and easement herein granted unto the Town, its successors and assigns forever.

AND the said Owner covenants as follows:

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

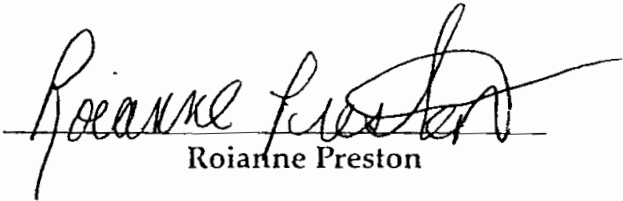
SECOND: That said Town shall quietly enjoy the said rights and easement.

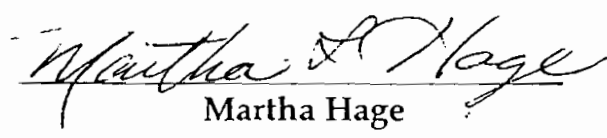
THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set their hands and seals the day and year first above written.


Roianne Preston


Martha Hage

STATE OF FLORIDA :
: SS:
COUNTY OF BROWARD :

On this 23 day of December, 2003, before me, the undersigned, a notary public in and for the said County of BROWARD personally appeared

ROIANNE PRESTON and MARTHA HAGE

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.



Ernest J. Fontaine
MY COMMISSION # DD121510 EXPIRES
May 29, 2006
BONDED THROUGH TROY FAIR INSURANCE, INC


NOTARY PUBLIC

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 80, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 81.04-1-24

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96
97
98
99
100

11.53 A(C)

19.1

754.85

SCHOOL DISTRICT

- SCH. 165.6

SCHEDULE B

15.84 A(C)

20.2

685.29

415

415

2.0 A(C)

20.1

209.93

60 132.93

209.93

415

415

3 A(C)

23

300

300

415

77

(60' WIDE)

654.14

SCOTT

718.03 1372.77

1034.11

82.04-1

30.02 A

25.9 A(C)

24

9.356 A
12.4 A(C)

22

850

127.86

3.825 A

25

28.5 A(C)

26

CHE-FRA-1
N 1,072,098
E 466,253

476(S)

61.85

61.85

(ELLCOTT CREEK RD)

430

6.

414.47(S)

174.47(S)

238.13

3.69 A(C)

238.14

temp
5.506 A
TRIP

8

11005

80

1 ; COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

MCBRIDE
ELIZABETH H
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8239
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:11:09
Control # 200411090021

TT# TT 2004 008962
Employee ID EDF

COUNTY	\$	28.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	48.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



D110858239

Box #261

PROPERTY ACCESS EASEMENT
(82.03-4-10)

THIS INDENTURE, made and entered into as of the 25th day of August, in the year 2003, by and between

ELIZABETH H. McBRIDE, residing at 9450 Meadowood Drive, Fort Pierce, FL 34951, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter Owner's land to perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter Owner's land for such purposes.

21

785 6 10

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Town for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- wastewater system maintenance (including pump replacement as necessary
- wastewater system inspections
- surface water system inspections
- fence/cap inspections
- fence maintenance
- grass mowing
- inspections of the monitoring well and gas vent system
- groundwater sampling.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform such operation and maintenance activities.

RESERVING, to the Owner, his/her/their successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

***TO HAVE AND TO HOLD* the rights and easement herein granted unto the Town, its successors and assigns forever.**

***AND* the said Owner covenants as follows:**

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set her hand and seal the day and year

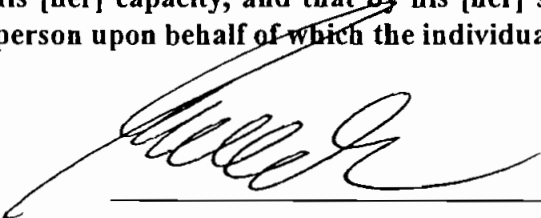
first above written.

Elizabeth H. McBride
Elizabeth H. McBride

New York
STATE OF FLORIDA :
: SS:
COUNTY OF Sullivan :

On this 25th day of August, 2003, before me, the undersigned, a notary public in and for the said County of Sullivan, personally appeared ELIZABETH H. McBRIDE

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.



NOTARY PUBLIC

GERALD ORSECK
Notary Public, State Of New York
Sullivan County Clerk's #762
Com. Expires November 30, 2016

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 79, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 82.03-4-10.

SCHEDULE B

COUNTY OF ERIE

HY-VIEW FIRE DISTRICT

79

4

82.03-4

21.7 A(C)
6

8.95 A
5

651.94
324 (70' WIDE)

818.56

AERO DR

418.71

170(S)

150
#1101
1.03 A(C)
9.2
300

255
14 A
12.8 A(C)
8

348.47
M45
3.7 A(C)
7

10.2 A(C)
10

7.54 A(C)
9.11

1263.94
1040

620(S)

139.4

625 CL
600.25

2 A
11

352.22
1.06 A(C)
9.12

732.72
1.4 A(C)
13

350(S)
575.99 CL
377.63 CL
12

3.1 A(C)
727.63
14

RS CORRAIL CONRAIL (PENN. CENTRAL RAILROAD)
330(S)

2.4 A(C)
15

139.4 CL

110.16

173.63 CL

633(S)

PFOHL RD

(49.5' WIDE)

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

PFOHL
PAUL
TOWN OF CHEEKTOWAGA

Index DEED LIBER

Book 11085 Page 8246

No. Pages 0009

Instrument EASEMENT/RTWY

Date : 11/09/2004

Time : 9:11:57

Control # 200411090024

TT# TT 2004 008963

Employee ID EDF

COUNTY	\$	34.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	54.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



D110858246

Box #261

PROPERTY ACCESS EASEMENT

(81.04-1-27; 81.04-1-28.1; 81.04-2-9.1; 81.04-2-10.1;
81.04-2-11; 82.03-4-5; 82.03-4-6; 82.03-4-7; 82.03-4-8)

THIS INDENTURE, made and entered into as of the 28 day of August, in the year 2003, by and between

PAUL PFOHL, residing at Q Bar Ranch, P.O. Box 3210, Kirby, OR 97531, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter its land to do the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter its land for such purposes.

24

785 - P

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Owner's land for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- wastewater system maintenance (including pump replacement as necessary)
- wastewater system inspection
- surface water system inspections
- fence/cap inspections
- fence maintenance
- grass mowing
- inspections of the monitoring well and gas vent system
- groundwater sampling

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner.

RESERVING, to the Owner, its successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

***TO HAVE AND TO HOLD* the rights and easement herein granted unto the Town, its successors and assigns forever.**

***AND* the said Owner covenants as follows:**

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set his hand and seal the day and year

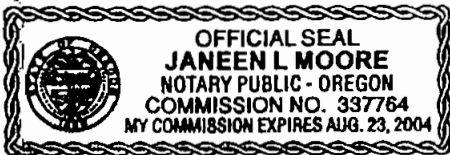
first above written.

Paul Pfohl
Paul Pfohl

STATE OF OREGON :
: SS:
COUNTY OF JOSEPHINE :

On this 28th day of AUGUST, 2003, before me, the undersigned, a notary public in and for the said County of JOSEPHINE, personally appeared
PAUL PFOHL

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.



Janeen L Moore

NOTARY PUBLIC

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lots Nos. 79 and 80, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being the following Erie County property tax account numbers:

- 81.04-1-27
- 81.04-1-28.1
- 81.04-2-9.1
- 81.04-2-10.1
- 81.04-2-11
- 82.03-4-5
- 82.03-4-6
- 82.03-4-7
- 82.03-4-8

SCHEDULE B

AERO LAKE

26.77 A(C)

28.1

80

81.04-1

26.6 A(C)

27

28.5 A(C)

26

FYLING REQUESTED

3.825 A

1000

30.02 A
25.9 A(C)

24

25

CHE-FRA-1
N 1,072,098
E 166,253

1110(S)

(70' WIDE)

670(S)

324

15.15 A(C)

80

SCHEDULE B (cont'd)

26.6 A(C)
27

28.5 A(C)
26

1000

1,072,098
+66,253

JCOTT CREEK RD

238.13
3.69 A(C)
7.2
#999

temp
5.506 A
TRIP
8
#1005

430(S)
50 A
6.71 A(C)
9.1

15.15 A(C)
10.1

81.04-2

10(S)
11

E 468,000
12,386 A
2.9 A(C)

2

648.24(C)

707.12

920.02 CL

978.48 CL

188.57
231
1.00 A(C)
7.1
231 CL

F1 94
P. 1002

241.17
1.80 A(C)
350 CL
9.211
241.0 CL

9.212
350'
172.83

447.83
3.34 A(C)
9.22
350 CL
447.83 CL 275'

376.17

98(S)

PFOHL RD (49.5' WIDE)

118 CL 2.4 A
2.50 A(C) 9
121 CL 2.43 A
2.15 A(C) 10
95 CL 1.6 A
1.76 A(C) 11
144 CL 7.1 A(C)
13

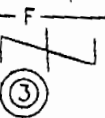
428(S)
7.1 A(C)
13

647(S)
4.8 A(C)
14

79

FILING REQUESTED

CT LINE
COMMON OWNER



CALCULATED ACREAGE 7.5 A(C)
DEED ACREAGE 17.5 A
SCALED DIMENSION 225 (S)
SCALED DIMENSION (CHECKED) 743.25(S)
DEED DIMENSION 173.33
(CENTER LINE) 173.33

081.03	X	082.03
092.01	092.02	093.01

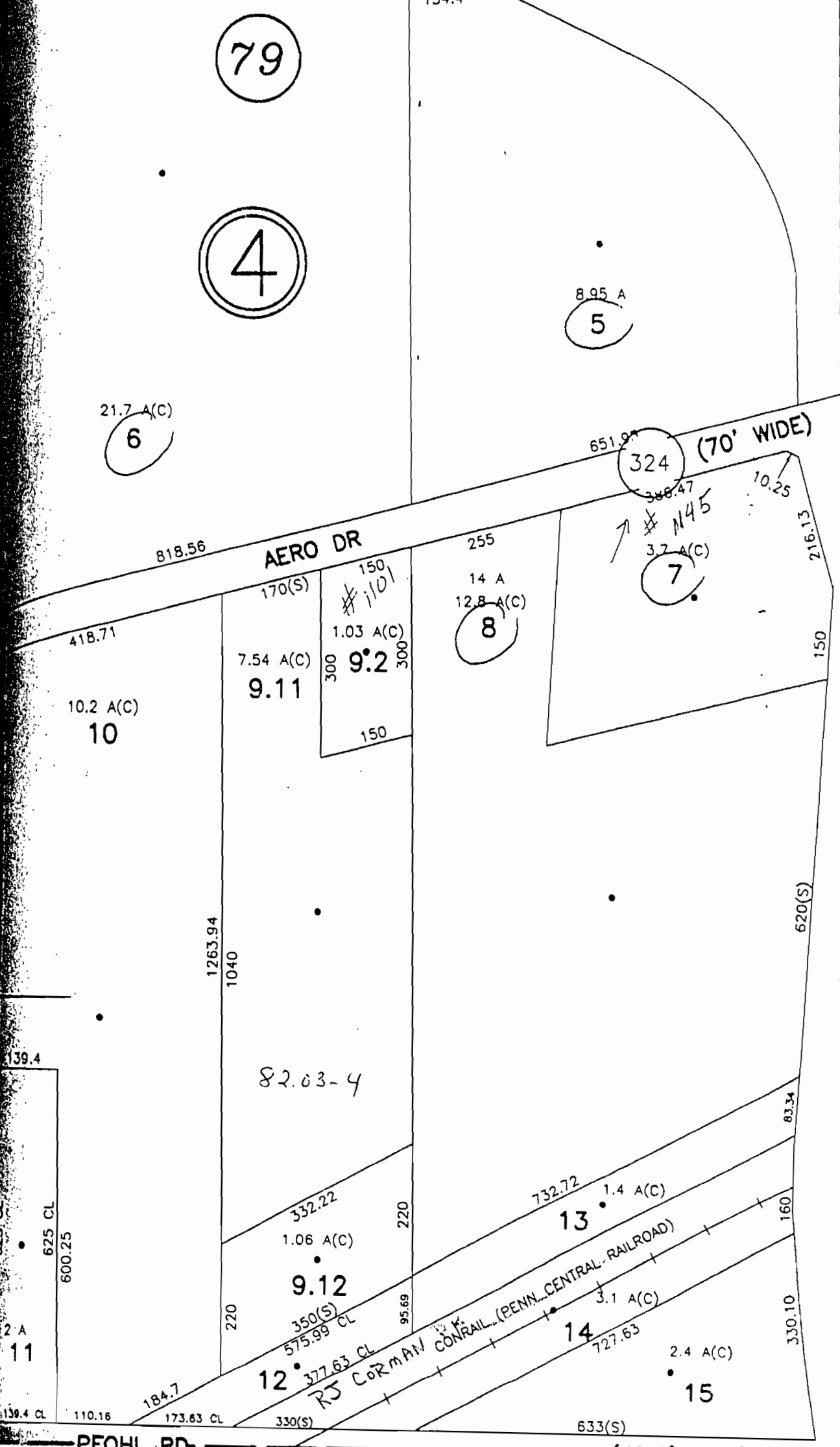


SHEET INDEX

SCHEDULE B (cont'd)

COUNTY OF ERIE

HY-VIEW FIRE DISTRICT



PFOHL RD (49.5' WIDE)

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

PFOHL
PAUL M
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8255
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:12:35
Control # 200411090026

TT# TT 2004 008964
Employee ID EDF

COUNTY	\$	38.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	58.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



Box #261

PROPERTY ACCESS EASEMENT
(82.03-4-11)

THIS INDENTURE, made and entered into as of the 28 day of August, in the year 2003, by and between

PAUL M. PFOHL, residing at Q Bar Ranch, West Side Road, Cave Junction, OR 97531, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter Owner's land to perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter Owner's land for such purposes.

26

185 6

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Town for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- wastewater system maintenance (including pump replacement as necessary
- wastewater system inspections
- surface water system inspections
- fence/cap inspections
- fence maintenance
- grass mowing
- inspections of the monitoring well and gas vent system
- groundwater sampling.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform such operation and maintenance activities.

RESERVING, to the Owner, his/her/their successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

***TO HAVE AND TO HOLD* the rights and easement herein granted unto the Town, its successors and assigns forever.**

***AND* the said Owner covenants as follows:**

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

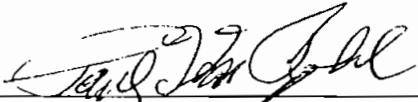
THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set his hand and seal the day and year

first above written.

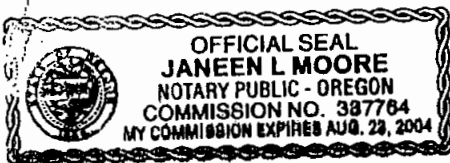


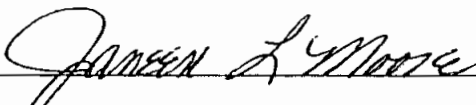
Paul M. Pfohl

STATE OF OREGON :
: SS:
COUNTY OF JOSEPHINE:

On this 28 day of August, 2003, before me, the undersigned, a notary public in and for the said County of JOSEPHINE personally appeared
PAUL M. PFOHL

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.





NOTARY PUBLIC

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 79, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 82.03-4-11.

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

JENKINS
STUART
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8262
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:13:16
Control # 200411090027

TT# TT 2004 008965
Employee ID EDF

COUNTY	\$	28.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	48.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



D110858262

**PROPERTY ACCESS EASEMENT
(82.03-4-9.12)**

THIS INDENTURE, made and entered into as of the 4th day of September, in the year 2003, by and between

STUART JENKINS, residing at 2 Glen Eagle Court, Williamsville, New York 14221, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter Owner's land to perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter Owner's land for such purposes.

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Town for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- wastewater system maintenance (including pump replacement as necessary
- wastewater system inspections
- surface water system inspections
- fence/cap inspections
- fence maintenance
- grass mowing
- inspections of the monitoring well and gas vent system
- groundwater sampling.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform such operation and maintenance activities.

RESERVING, to the Owner, his/her/their successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

***TO HAVE AND TO HOLD* the rights and easement herein granted unto the Town, its successors and assigns forever.**

***AND* the said Owner covenants as follows:**

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set his hand and seal the day and year

first above written.

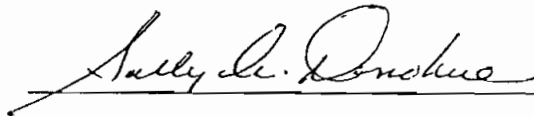


Stuart Jenkins

STATE OF NEW YORK :
: SS:
COUNTY OF ERIE :

On this 3rd day of September, 2003, before me, the undersigned, a notary public in and for the said County of Erie, personally appeared
STUART JENKINS

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.



NOTARY PUBLIC

SALLY A. DONOHUE
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 08/31/05

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 79, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 82.03-4-9.12.

SCHEDULE B

COUNTY OF ERIE

HY-VIEW FIRE DISTRICT

79

4

148.2
63.8
134.4

8.95 A
5

21.7 A(C)
6

651.9
324 (70' WIDE)

818.56

AERO DR

255
14 A
12.8 A(C)
8

388.47
M45
3.7 A(C)
7

418.71
10.2 A(C)
10

170(S)
150
#1101
1.03 A(C)
9.2
300
150

7.54 A(C)
9.11

1263.94
1040

82.03-4

139.4

625 CL
600.25

2 A
11

139.4 CL

110.16

173.63 CL

9.12

350(S)
575.99 CL

12
377.63 CL
RS CORP

330(S)

220

95.89

732.72

13
1.4 A(C)

14
3.1 A(C)

2.4 A(C)
15

727.63

633(S)

620(S)

83.34

160

330.10

PFOHL RD

(49.5' WIDE)

5488 596.35

ER. COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

NEW YORK STATE ELECTRIC&GAS
CORPORATION
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8272
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:13:54
Control # 200411090030

TT# TT 2004 008967
Employee ID EDF

COUNTY	\$	28.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	48.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S
ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a
(5) OF THE REAL PROPERTY LAW OF THE STATE OF
NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.

CONSIDERATN	\$	1.00
TRANSFER TAX	\$	.00

DAVID J SWARTS
COUNTY CLERK



D110858272

PROPERTY ACCESS EASEMENT
(82.03-4-12)

THIS INDENTURE, made and entered into as of the 11th day of September, in the year 2003, by and between

NEW YORK STATE ELECTRIC & GAS CORPORATION, a domestic corporation organized under the laws of the State of New York, with its principal office at Town of Dryden (no street address), County of Tompkins and State of New York, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter its land to do the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter its land for such purposes.

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Owner's land for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- groundwater quality inspection and testing
- hydraulic monitoring
- obtaining access to adjacent property.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner.

RESERVING, to the Owner, its successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain

adequate liability and workers' compensation insurance.

TO HAVE AND TO HOLD the rights and easement herein granted unto the Town, its successors and assigns forever.

AND the said Owner covenants as follows:

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

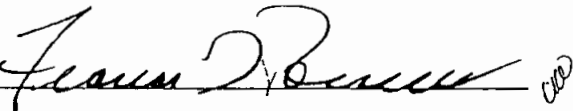
THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule A .

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer the day and year first above written.

NEW YORK STATE ELCTRIC & GAS CORPORATION

By: Francis DiTommaso 

STATE OF NEW YORK :
: SS:
COUNTY OF ERIE Broomfield

On this 11th day of September, 2003, before me, the undersigned, a notary public in and for the said County of Erie, personally appeared Broomfield

Francis DiTommaso
personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.

Cynthia K Oliver

NOTARY PUBLIC

Cynthia K Oliver
Notary Public, State of NY
Saratoga County
Commission Expires 5/7/05

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 79, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 82.03-4-12.

SCHEDULE B

COUNTY OF ERIE

HY-VIEW FIRE DISTRICT

79

4

82.03-4

148.2
63.8
4
134.4

8.95 A
5

21.7 A(C)
6

651.9
324 (70' WIDE)

818.56

AERO DR

255

388.47
10.25
3.7 A(C)
7

14 A
12.8 A(C)
8

418.71

170(S)

150
110
1.03 A(C)
9.2
300

7.54 A(C)
9.11

10.2 A(C)
10

150

1263.94

1040

620(S)

139.4

625 CL
600.25

332.22

1.06 A(C)

9.12

350(S)

575.99 CL

12

377.63 CL

330(S)

732.72

1.4 A(C)

13

CONRAIL (PENNSYLVANIA CENTRAL RAILROAD)

3.1 A(C)

14

727.63

2.4 A(C)

15

139.4 CL

110.16

173.63 CL

330(S)

633(S)

PFOHL RD

(49.5' WIDE)

596.35

ERIE COUNTY CLERK'S OFFICE
County Clerk's Recording Page

Return To:

BOX 261

AERO LAND INC
TOWN OF CHEEKTOWAGA

Index DEED LIBER
Book 11085 Page 8285
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 11/09/2004
Time : 9:14:35
Control # 200411090033

TT# TT 2004 008970
Employee ID EDF

COUNTY	\$	28.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	48.00

STATE OF NEW YORK
ERIE COUNTY CLERK'S OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

David J. Swarts
County Clerk



D110858285

PROPERTY ACCESS EASEMENT
(82.03-4-9.11 & 82.03-4-9.2)

THIS INDENTURE, made and entered into as of the 20 day of September, in the year 2003, by and between

AERO LAND, INC., a domestic corporation organized under the laws of the State of New York, with offices at 19 Aero Drive, Cheektowaga, New York 14225, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter Owner's land to perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter Owner's land for such purposes.

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Town for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- wastewater system maintenance (including pump replacement as necessary
- wastewater system inspections
- surface water system inspections
- fence/cap inspections
- fence maintenance
- grass mowing
- inspections of the monitoring well and gas vent system
- groundwater sampling.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform such operation and maintenance activities.

RESERVING, to the Owner, his/her/their successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

TO HAVE AND TO HOLD the rights and easement herein granted unto the Town, its successors and assigns forever.

AND the said Owner covenants as follows:

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

THIRD: ~~That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A".~~

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has caused its corporate seal to be hereunto affixed and these presents to be signed by its duly authorized officer the day and year first above written.

AERO LAND, INC. - 16-1549480
By: [Signature] pres.

STATE OF NEW YORK :
: SS:
COUNTY OF ERIE :

On this 3RD day of September, 2003, before me, the undersigned, a notary public in and for the said County of Erie, personally appeared Jerome F. Hirsch personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.

[Signature]
NOTARY PUBLIC

PATRICIA A. KRUCZAK
NOTARY PUBLIC, State of New York
Qualified in Erie County
Expires Oct. 31, 2006

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 79, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being the following Erie County property tax account numbers:

82.03-4-9.11

82.03-4-9.2

COUNTY OF ERIE

SCHEDULE B

63.8
148.2
4.8
134.4

79

4

8.95 A
5

21.7 A(C)
6

651.9
324 (70' WIDE)

818.56

AERO DR

255

388.47
10.25
3.7 A(C)
7

418.71

170(S)

150
110
1.03 A(C)
9.2
300

14 A
12.8 A(C)
8

10.2 A(C)
10

7.54 A(C)
9.11

219.17

150

HY-VIEW FIRE DISTRICT

F

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:

BOX 261

Index DEED LIBER
Book 11086 Page 1789
No. Pages 0015
Instrument EASEMENT/RTWY
Date : 11/16/2004
Time : 9:18:06
Control # 200411160056

NIAGARA MOHAWK POWER
CORPORATION
TOWN OF CHEEKTOWAGA (THE)

TT# TT 2004 009560
Employee ID MRV

COUNTY	\$	52.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	72.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.	CONSIDERATN \$	1.00
	TRANSFER TAX \$	.00

DAVID J SWARTS
COUNTY CLERK



D110861789

AGREEMENT FOR ACCESS TO NIAGARA MOHAWK PROPERTY

THIS ACCESS AGREEMENT made as of the 1st day of September 2004, by and between NIAGARA MOHAWK POWER CORPORATION, a corporation organized under the laws of the State of New York, having its principal office located at 300 Erie Boulevard West, Syracuse, New York, (hereinafter referred to as "Niagara Mohawk"), and the TOWN OF CHEEKTOWAGA, a municipal corporation organized under the laws of the State of New York, having its principal office located at 3301 Broadway, Cheektowaga, New York 14227 (hereinafter referred to as "the Town").

WITNESSETH:

Whereas, Niagara Mohawk owns a certain parcel of land described as Tax Map 81.04, Block 1, Parcel 25, located in the Town of Cheektowaga, County of Erie, State of New York (the "Property"), as further described on the attached Appendix A; and

Whereas, Niagara Mohawk owns, operates and maintains an overhead electric transmission line located on the Property, which line includes, without limitation, structures, overhead wires, cables, cross arms, guys, braces and other facilities, appurtenances and equipment (collectively hereinafter referred to as the "Line"); and

Whereas, the Property is located or adjacent to what is commonly referred to as the Pfohl Brothers Landfill Site ("Site"), which has been designated an inactive hazardous waste disposal site by New York State Department of Environmental Conservation ("NYDEC"); and

Whereas, the NYDEC has issued a Record of Decision, dated February 1992,

- 10
mac
B1675611
C 56
785-14

setting forth the selected remedial action plan for the Site; and

Whereas, the Town, as part of the remedial action plan for the Site, has committed to certain operation and maintenance activities at the Site (hereinafter collectively referred to as the "Operation and Maintenance Plan," which in its entirety shall, as finalized, be incorporated herein by reference); and

Whereas, in order to perform certain response activities at the Site and the Property pursuant to the Operation and Maintenance Plan, the Town seeks permission to enter upon and have access to the Property through and by its representatives, contractors, consultants and agents acting at its direction (hereinafter collectively included within the term "Town") and perform response activities and work in accordance with and limited to the activities and work detailed in the Operation and Maintenance Plan for purposes of maintaining the Site; and

Whereas, Niagara Mohawk is willing to permit such access upon the terms and conditions set forth herein.

Now, therefore, in consideration of the premises and covenants set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, Niagara Mohawk and the Town, agree and intend to be bound as follows:

1. Niagara Mohawk hereby grants to the Town the right to enter upon the Property for the purpose of performing on the Site the following activities in accordance with the plans and specifications and in the manner prescribed in the Operation and Maintenance

Plan:

- a) hydraulic monitoring/periodic sampling of the monitoring wells;
- b) groundwater quality inspection and testing;
- c) access to adjacent properties on the Site.

Each occasion of entrance on the Property pursuant to the access granted by this Agreement, and every activity performed in connection therewith, shall be carried out subject to the terms and conditions of this Agreement, a copy of which will be provided by the Town to each person, entity, representative, contractor, consultant or agent who enters the Property in connection with the Operation and Maintenance Plan activities.

2. The Town recognizes and understands that the Property upon which access is granted is an electric transmission right-of-way or easement, and the Town shall comply with the terms and conditions set forth in Appendix B to this Agreement, entitled "Special Conditions for Work on Electric Transmission Rights-of-Way." The Town shall take all necessary steps to ensure that the terms and conditions, including minimum Line clearance requirements, set forth in Appendix B are maintained at all times by persons, equipment and vehicles entering the Property pursuant to this Agreement.

If Niagara Mohawk determines that the minimum clearance specified in Appendix B is not being maintained during the course of the activities conducted on the Property by the Town, then Niagara Mohawk may at its option order all work on the Property to stop until such time as the Town has taken reasonable and necessary measures to ensure that Niagara Mohawk's equipment and facilities are protected from incursions within the

required area of clearance and that the terms and conditions of Appendix B are being and will be satisfied.

3. The Town is aware that a static electric charge may exist on ungrounded metal objects located in the vicinity of electric transmission lines. The Town shall develop and implement working procedures to mitigate any static electric charge which develops on any metal object located on the Property and such procedures shall comply with all applicable industry standards.

4. Niagara Mohawk, at its election and expense but without obligation on its part, may have an inspector present whenever any activities are conducted on the Property pursuant to this Agreement, and such inspector shall have the right and authority to require the modification or cessation of any such activities, when such activities are not being conducted in conformance with the provisions of this Agreement, are contrary to or in excess of the purposes set forth in the NYDEC-approved Operation and Maintenance Plan, or are being conducted in a manner which presents an unreasonable risk of harm to Niagara Mohawk's Line, the Property, or any person. The presence or absence on any occasion of any inspector of Niagara Mohawk shall not constitute a waiver of this provision as to any subsequent occasions of access.

5. It is understood and agreed that no vested right in Niagara Mohawk's property is granted or conveyed by this Agreement and the Town recognizes that the access authorized hereunder is granted subject to any and all outstanding leases, tenancies, easements, licenses, encumbrances, liens, conditions, restrictions and/or reservations which

apply to Niagara Mohawk's ownership of the Property.

6. The Town shall not do any blasting on the Property without the prior written consent of Niagara Mohawk, which consent shall not relieve the Town of liability for personal injury, death, property damage or property destruction, interruption of electrical service and any related damages caused by such blasting.

7. Niagara Mohawk reserves the right to use the Property at any time for any purpose whatsoever, including, without limitation, the construction, reconstruction, operations, inspection, maintenance, repair, replacement, removal and/or relocation of Niagara Mohawk's Line upon, over, under and through the Property. The Town shall not interfere with Niagara Mohawk's use of the Property. Niagara Mohawk shall not interfere with the response activities of the Town on the Property, but in the event Niagara Mohawk needs to use the Property to ensure the integrity of Niagara Mohawk's line or to ensure the continued transmission of electricity, Niagara Mohawk will have priority of access and use.

The Town agrees that any fencing which it erects on the Property shall be temporary and shall not obstruct or interfere with Niagara Mohawk's operation of, or access to, Niagara Mohawk's Line, which shall at all times have priority over any other use of the Property, including activities undertaken and rights granted under this Agreement.

The rights granted under this Agreement shall be subject and subordinate to the paramount right of Niagara Mohawk to occupy and use the whole or any part of the Property, and Niagara Mohawk's right to authorize the occupancy or use by others of any portion or portions of the Property as it deems necessary, to ensure the integrity of Niagara

Mohawk's line or to ensure the continued transmission of electricity.

The Town agrees that it will not take, or cause to be taken, any action on the Property that will interfere with or adversely affect Niagara Mohawk's operations on the Property. The Town will conduct its activities on the subject Property in such a manner as to:

- (a) not restrict access by Niagara Mohawk's trucks and equipment;
- (b) not restrict, alter or otherwise affect drainage patterns or grading, except insofar as is specifically required and permitted within the Operation and Maintenance Plan, which Niagara Mohawk acknowledges it has reviewed and approved;
- (c) not alter, damage, or interfere with Niagara Mohawk's Line; and
- (d) not permit or restrict vehicular traffic along the Property.

8. The rights and obligations granted to the Town under this Agreement are personal to the Town. The Town shall not assign this Agreement, or any benefit or burden hereunder, without the prior written consent of Niagara Mohawk, which consent will not unreasonably be withheld.

9. All persons or entities to whom the Town provides access to the Property under this Agreement will provide, to the Town's satisfaction, necessary, desirable and reasonable insurance coverages commensurate with all activities to be undertaken by them, and to ensure against all conditions to be encountered by them, in connection with their activities on the Property. Proof of such insurance coverages will be provided in accordance with the Town's contracts with such persons or entities. The insurance coverages of such persons or entities whose activities will involve access to or Activity on the Property will expressly name Niagara Mohawk as an insured and beneficiary.

10. The Town shall indemnify, hold harmless and defend Niagara Mohawk against any and all liabilities, lawsuits, damages, costs (including, without limitation, reasonable attorneys' fees), expenses, claims, demands, suits, assessments, recoveries, judgments, executions, fines or penalties arising out of the Town's entrance on, use or occupation of or work on the Property. This Agreement, however, is not intended to, nor does it, relate to or affect any parties' rights or obligations to any other party, the State of New York or the United States of America, regarding the liability or pro rata share of liability attributable to any party, or response costs associated with the Site, all such rights or obligations being unrelated and unaffected by the terms of this Agreement.

11. Within a reasonable time thereafter, Niagara Mohawk shall inform the Town in writing of receipt of any claims or potential claims, demands for suits, assessments, demands for fines or penalties, or other lawsuits or damages arising out of or otherwise connected with this Agreement.

12. Notwithstanding any other provisions of this Agreement, in the Town's use of the Property, the Town shall comply with all applicable laws, ordinances, rules, regulations, orders, decisions, judgments, rulings and industry standards, including without limitation: (a) the Occupational Safety and Health Act of 1970, 29 U.S.C. §651 et. seq.; (b) the High Voltage Proximity Act, New York Labor Law §202-h; and (c) the National Electrical Safety Code (ANSI C2), as each may be amended or superseded from time to time.

13. The failure of any party to enforce or insist on any of the terms or conditions of this Agreement, or its waiver of the same in any instance or instances, shall not

be construed as a general waiver or relinquishment of any such term or condition, but the same shall be and remain at all times in full force and effect.

14. This Agreement, including its recitals, constitutes the entire understanding of the parties with respect to the subject matter hereof. Any modification of this Agreement shall be in writing and shall be signed by an authorized representative of each party hereto before having any force or effect.

15. Except as provided expressly herein, nothing in this Agreement in any way estops, bars or otherwise prevents the parties from asserting any and all claims against each other or against any third-party regarding environmental conditions on or around the Property, and nothing herein shall be construed as a waiver of any cause of action, claim, demand, or defense the parties hereto might otherwise have under statutory law, common law, contract or otherwise against each other or against any third-party.

16. Notwithstanding any provisions to the contrary in this Agreement, no party hereto shall waive any privilege or any other defenses it may have based on any information, oral or otherwise, disclosed, revealed, given to either party by the other, or otherwise made known, as a result of the activities arising from this Agreement.

17. The parties to this Agreement hereby submit and consent to the exclusive jurisdiction of the Supreme Court of the State of New York for Erie County, and of the Federal District Court for the Western District of New York, in any action brought to enforce (or otherwise relating to) this Agreement. In addition, the parties hereby agree that venue shall be proper in each of the said courts.

18. Nothing in this Agreement is intended to excuse, indemnify or hold any party harmless from any liability or responsibility such party might have in any way connected with the Property prior to the time this Agreement is granted, including but not limited to any liability or responsibility any party might have for preexisting environmental conditions at the Property.

19. Niagara Mohawk warrants that it has good title to the Property and has the right and power to enter into and perform this Agreement. The Town warrants that it has the right and power to enter into and perform this Agreement.

20. This Agreement shall touch and run with the Property, and all of its terms, covenants and conditions shall be binding on and inure to the benefit of the parties hereto, their legal representatives, and successors.

21. This Agreement shall become effective immediately and shall terminate in accordance with the terms of the Operation and Maintenance Plan or earlier upon notification by the NYDEC that the Town's operation and maintenance activities are no longer required.

22. Prior to commencing any activities on the Property and again on final completion of such activities, the Town shall notify Niagara Mohawk.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement

as of the day and year first above written.

NIAGARA MOHAWK POWER CORPORATION

By: Joseph M. Kwasnik
Joseph M. Kwasnik
Vice President, Environmental

*WJL
8/12/04*

TOWN OF CHEEKTOWAGA

By: Dennis Gabryszak

STATE OF NEW YORK :

COUNTY OF ONONDAGA : SS.:

On this 1st day of September
August, 2004, before me, the undersigned, a notary public in and for the said County of Erie, personally appeared **Joseph M. Kwasnik**

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [x]he acknowledged to me that [x]he executed the same in his [~~her~~] capacity, and that by his [~~her~~] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.

VICKI L. PIAZZA
Notary Public in the State of New York
Qualified in Onondaga County, No. 4848074
My Commission Expires March 30, 2007

[Signature]
NOTARY PUBLIC

STATE OF NEW YORK :

COUNTY OF ERIE : SS.:

On this 8th day of November, 2004, before me, the undersigned, a notary public in and for the said County of Erie, personally appeared DENNIS H. GABRYSZAK, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and [s]he acknowledged to me that [s]he executed the same in his [her] capacity, and that by his [her] signature on the instrument, the individual or the person upon behalf of which the individual acted executed the instrument.

Constance M. Paoletti
NOTARY PUBLIC

CONSTANCE M. PAOLETTI
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 4-30-2006

APPENDIX A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 80, Township 11 and Range 7 of the Holland Land Company's Survey, being more particularly described as being Erie County property tax account number 81.04-1-25.

1
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APPENDIX B

SPECIAL CONDITIONS FOR WORK ON
ELECTRIC TRANSMISSION RIGHTS OF WAY

1. The work conducted on an electric transmission right of way or easement (collectively referred to hereinafter as "ROW") shall be performed in compliance with the High Voltage Proximity Act. The Town shall take all necessary steps to insure that minimum line clearances are maintained by all persons, equipment and vehicles entering the Property as follows:

Voltage	Minimum Clearance
50 Kv or less	10 feet
115 Kv	15 feet
230 Kv	17 feet
345 Kv	20 feet

2. All Equipment which is operated under or near any electrical conductors shall be effectively grounded as follows:

GROUNDING SPECIFICATIONS

Extreme caution shall be exercised while working in the vicinity of Niagara Mohawk Power Corporation's electric transmission towers, poles and/or underground facilities so as not to diversely affect, in any manner whatsoever, the structural stability of said towers and/or facilities. All equipment used in the work area which could approach nearer than twenty-five feet (25') to an energized electric power line or power facility, located overhead or underground, shall be grounded in order to protect persons and property. A good ground connection shall be securely attached to all equipment utilized at the work site and shall not be removed until the boom or any other substantial extension of all mobile equipment has been removed from the area of the work. All equipment used to make grounds shall be furnished at the sole cost and expense of the party performing the work, who shall also be responsible for determining the adequacy of all grounding arrangements utilized in the work area. However, the minimum steps that must be taken to effectively ground all equipment utilized in the work area are as follows:

- (1) All such equipment shall be provided with a permanent clamp for convenient and effective

attachment to a grounding conductor,

- (2) The cable connecting the clamp to an adequate ground shall be equivalent to a No. 2/0 A WG or larger copper cable approximately 50 to 100 feet long, extra flexible, with 600 volt covering for abrasive protection and with terminal parts that will ensure a proper connection.
- (3) Station grounds, water hydrants, metallic pipe water systems, common neutral wire or steel tower earth footings provide grounds that are likely to be adequate in order of preference listed. When such grounds are not available, anchor rods, temporarily driven, or auger-type grounds shall be used to secure a low resistance ground.

The above-mentioned recommendations are suggested by Niagara Mohawk Power Corporation as minimum requirements only; a Niagara Mohawk Corporation Inspector may review compliance with these minimum requirements prior to commencement of construction of activities on said premises.

3. Equipment which has the capability of extending within the wire clear zone established in Paragraph I above shall have a warning sign attached identifying the potential hazard.
4. No equipment utilized in site preparation grading, etc. shall be operated within ten (10) feet of any transmission line or within five (5) feet of any supporting structure.
5. There shall be no changes in grade within the right of way unless approved by Niagara Mohawk.
6. UFPO (800-962-7962) shall be notified two days prior to any excavation specifically for, but not limited to, the purpose of identifying and locating Niagara Mohawk's facilities or underground facilities of other parties. The Town shall use extreme caution during excavation and installation of the facilities, if any, such that Niagara Mohawk's facilities are not disturbed. The Town shall be responsible for all repair costs of damages incurred which are a result of the installation of the facilities, if any, or their future maintenance.

7. All soil not used to backfill an excavation shall be removed from the ROW and/or disposed of in accordance with applicable regulatory requirements, including the Operation and Maintenance Order and 100% Design Plan.
8. There shall be no blasting on ROW.
9. The site preparation procedures shall include no activities which cause material to migrate or be placed or disposed off the boundaries of Niagara Mohawk's ROW.
10. No activities shall be permitted which compromise the electrical or structural integrity of overhead transmission facilities.
11. Niagara Mohawk reserves the right to review any construction drawings and specifications as well as review and inspect the activities being carried on with ROW.
12. Markers shall be placed on each side of the ROW locating the buried facilities.
13. There shall be no excavation under the overhead lines within fifteen feet of the nearest wood member or guy anchor and/or twenty-five feet of the nearest steel member of a transmission line supporting structure.
14. No structures of any kind shall be constructed on the ROW.
15. The Superintendent of Area Transmission and distribution shall be notified in writing ten (10) days before any work is started on the ROW. The address is:

Superintendent T & D
 Niagara Mohawk Power Corporation
 Electric Operations Headquarters 300
 Erie Boulevard West Syracuse, New
 York 13202
16. If any terms or provisions of this Attachment are inconsistent with the Agreement, the terms and conditions of the Agreement shall have precedence.

ERIE COUNTY CLERKS OFFICE
County Clerk's Recording Page

Return To:
BOX 261

Index DEED LIBER
Book 11093 Page 6285
No. Pages 0007
Instrument EASEMENT/RTWY
Date : 4/13/2005
Time : 9:06:02
Control # 200504130002

DAVEY TREE EXPERT COMPANY INC
TOWN OF CHEEKTOWAGA

TT# TT 2004 021065
Employee ID DMZ

COUNTY	\$	38.00
COE STATE	\$	4.75
TRANSFER	\$	.00
NFTA TT	\$	.00
COE COUNTY	\$	1.00
COE ST GEN	\$	14.25
	\$	.00
	\$	.00
	\$	.00
Total:	\$	58.00

STATE OF NEW YORK
ERIE COUNTY CLERKS OFFICE

TRANSFER TAX

WARNING - THIS SHEET CONSTITUTES THE CLERK'S
ENDORSEMENT, REQUIRED BY SECTIONS 319&316-a
(5) OF THE REAL PROPERTY LAW OF THE STATE OF
NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.

CONSIDERATN	\$	1.00
TRANSFER TAX	\$	.00

DAVID J SWARTS
COUNTY CLERK



0110936285

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a right-of-way and easement for the purpose of providing ingress and egress to the Owner's land for the purpose of performing the following described operation and maintenance activities, at the Town's sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A" and as shown on Schedule "B" annexed hereto and made a part hereof:

- inspections of the monitoring well
- groundwater sampling

This right of way and easement shall terminate five (5) years from the date of execution of this easement, or sooner if the New York State Department of Environmental Conservation determines that this easement is no longer necessary. If renewal of this easement is deemed necessary by the New York State Department of Environmental Conservation, the Owner agrees to renegotiate renewal of this lease with the Town for another term.

All operations and activities will be performed so as to cause minimal intrusion to Owner's real property, and will not interfere with Owner's use of the real property.

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, a portion of the real property of the Owner in such a manner as to not interfere with Owner's use or rights in or to the real property or cause diminution of value to the real property.

RESERVING, to the Owner, its successors and assigns, the right of reasonable

ingress and egress over the easement herein unto the Town.

Prior to the placement of any structures on the real property, the Town will contact the Owner and will mutually agree with Owner as to the location of any structure, related work zone and ingress and egress routes. The Town will share with Owner the results of any testing performed on the real property.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed in a manner that is least intrusive to the real property, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance; and

(c) The Town will pay for damages caused by its operations and maintenance, including ingress and egress; and

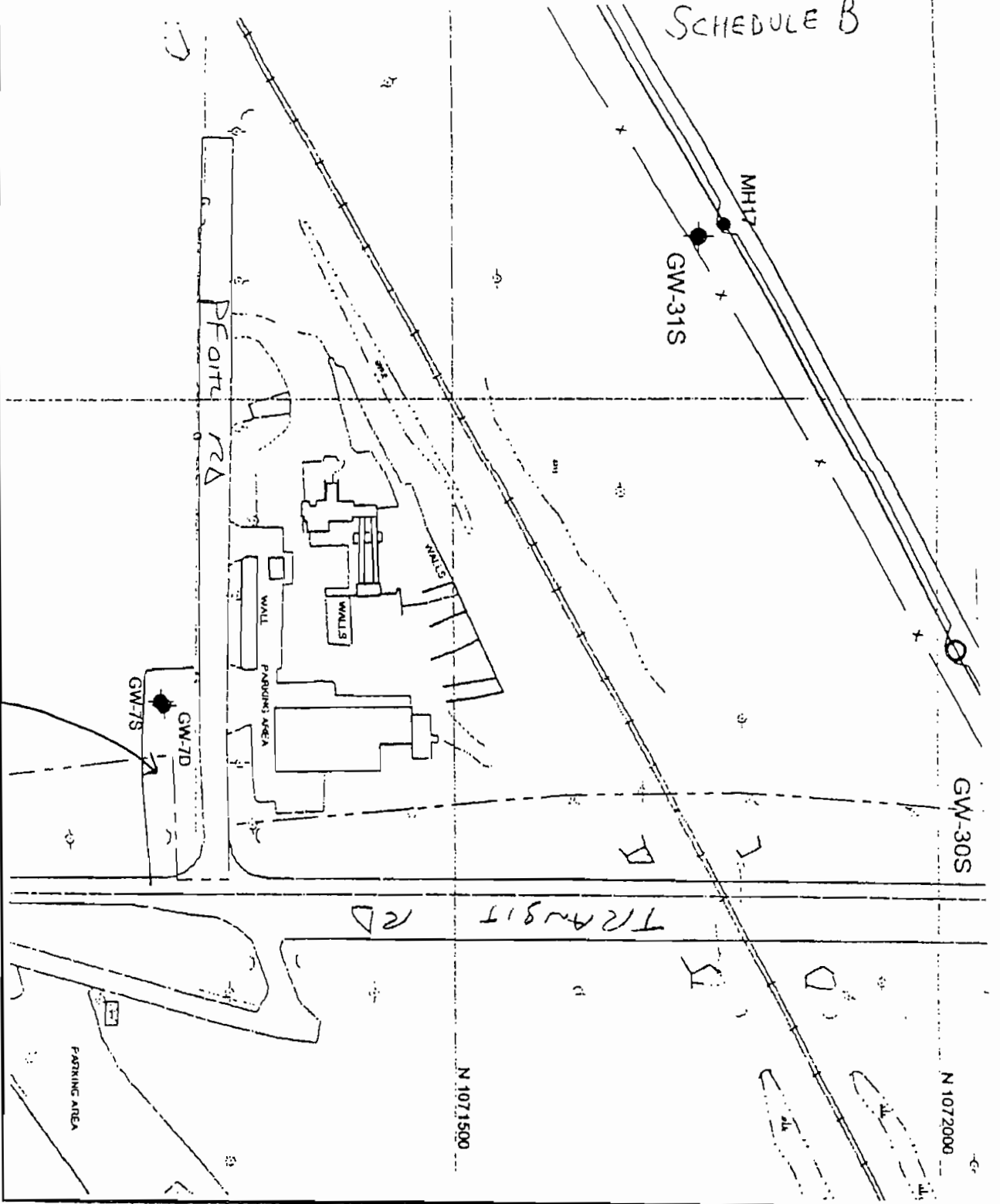
(d) The Town will compensate Owner for any diminution, if any, of the real property's value caused by the Town's activities; and

(e) The Town, under its self-insurance liability program, will indemnify, defend and hold Owner harmless against any and all claims in any way related to, caused by, or occurring by virtue of this easement or the Town's activities.

TO HAVE AND TO HOLD the rights and easement herein granted unto the Town, its successors and assigns forever.

AND the said Owner covenants as follows:

SCHEDULE B



DRAWING STATUS		
Status	Date	Initial
REVISED T/RIM ELEV FOR MH-4 & MH-7	AUGUST 2003	TJC
AS-RECORDED	FEBRUARY 2003	TJC
ISSUED FOR CONSTRUCTION	JULY 2000	JK
FINAL (100%) DESIGN/ISSUED FOR BID	AUGUST 1999	PMB
PRE-FINAL (95%) DESIGN SUBMITTAL	OCTOBER 1998	PMB

PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NEW YORK
SITE REMEDIATION

MONITORING NETWORK LOCATIONS



CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: K. D. SCHMIDTKE	Reviewed By: R. J. SNYDER	Date: OCTOBER 1998
Scale: 1"=150'	Project N. #: 01979-00	Report N. #: 037
		Drawing N. #: G-06

01979-00(037)GN-WA005 AUG 08/2003

Easement Area

Honorable David J Swarts
County Clerk
Erie County
92 Franklin Street
Buffalo, NY 14202
(716) 858-8865

DATE:10/21/2005
TIME:09:13:16 AM
RECEIPT:34970

TOWN OF CHEEKTOWAGA

ITEM -01 785U 09:13:16 AM
FILE:2005063879 BK/PG:011103/3676
DEED SEQ:TT200507066
PFOHL ADAM G EST
TOWN OF CHEEKTOWAGA (THE)
RECORDING FEE 55.00
TP584 10.00
MARKOFF FEE 0.00
Sub. Total 65.00

AMOUNT DUE: \$65.00
CHARGE AMOUNT: \$65.00
TOTAL PAID: \$65.00
REF #: ESTATE ADAM G PFOHL
I Agree To Pay The Charge Above
Signature _____

REC BY:ELAINES
County Clerk
Have a nice day!

Box #261

**PROPERTY ACCESS EASEMENT
(81.04-1-26)**

THIS INDENTURE, made and entered into as of the 5th day of October, in the year 2005, by and between

ESTATE OF ADAM G. PFOHL, by ACEA MOSEY-PAWLOWSKI, Public Administrator with the Will annexed, with an office at 625 Delaware Avenue, Suite 100, Buffalo, NY 14202, hereinafter referred to as the "Owner", and

THE TOWN OF CHEEKTOWAGA, ERIE COUNTY, NEW YORK, a domestic municipal corporation having its principal office and place of business at the Town Hall, 3301 Broadway, in the Town of Cheektowaga, County of Erie and State of New York, hereinafter referred to as the "Town".

WHEREAS, pursuant to the terms of a Settlement Agreement between the Town and the Pfohl Brothers Steering Committee, the Town is responsible for performing long-term operation and maintenance activities at the Pfohl Brothers Landfill Site and certain other properties in the area, and

WHEREAS, in order to perform this long-term operation and maintenance activities, the Town requires an easement from the Owners to enter its land to perform the necessary maintenance work, and

WHEREAS, the Owner understands that this operation and maintenance work needs to be performed, and is willing to grant the Town the necessary rights to enter its land for such purposes.

WITNESSETH:

THAT the Owner, in consideration of the sum of One and No More Dollars (\$1.00 & no more), and other good and valuable consideration paid by the Town, does hereby grant and release unto the Town a permanent right-of-way and easement for the purpose of providing ingress and egress to the Owner's land for the purpose of performing the following described operation and maintenance activities, at its sole cost and expense, in, across, and under that portion of the real property of the Owner described in Schedule "A"

annexed hereto and made a part hereof:

- **wastewater system maintenance (including pump replacement as necessary**
- **Wastewater system inspections**
- **Surface water system inspections**
- **Fence/cap inspections**
- **Fence maintenance**
- **Grass mowing**
- **Inspections of the monitoring well and gas vent system**
- **Groundwater sampling.**

TOGETHER with the grant to the Town, its agents, servants and/or employees, of the right of reasonable ingress and egress over, and entry upon, the real property of the Owner to perform the operation and maintenance activities.

RESERVING, to the Owner, its successors and assigns, the right of reasonable ingress and egress over the easement herein unto the Town.

SUBJECT TO:

(a) The Town causing any work performed in the exercise of the rights and privileges granted herein to be promptly completed, and causing all property of the Owner to be restored as nearly as possible to the condition the same was in immediately before the commencement of any such work; and

(b) The Town requiring any contractor performing any such work to maintain adequate liability and workers' compensation insurance.

***TO HAVE AND TO HOLD* the rights and easement herein granted unto the Town, its successors and assigns forever.**

***AND* the said Owner covenants as follows:**

FIRST: That said Owner is seized of the said premises in fee simple, and has the good right to convey same;

SECOND: That said Town shall quietly enjoy the said rights and easement.

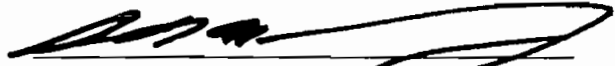
THIRD: That said premises are free and clear of all liens and encumbrances in the portion of the Owner's real property described in the attached Schedule "A", other than the lien for unpaid real property taxes.

FOURTH: That the Owner will execute or procure any further necessary assurances of the title to said rights and easement.

FIFTH: That said Owner will forever warrant the title to the said rights and easement.

IN WITNESS WHEREOF, the Owner has set her hand and seal the day and year

first above written.



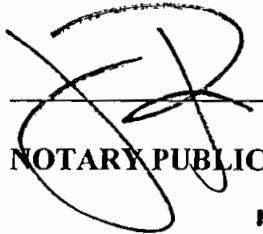
Acea Mosey-Pawłowski, ~~is~~ Public Administrator,
With the Will annexed for the Estate of Adam G.
Pfohl

STATE OF NEW YORK :
: SS:
COUNTY OF ERIE :

On this 5th day of October, 2005, before me, the undersigned, a
notary public in and for the said County of Erie, personally appeared

ACEA MOSEY-PAWŁOWSKI

personally known to me or proved to me on the basis of satisfactory evidence to be the
individual whose name is subscribed to the within instrument, and [s]he acknowledged to me
that [s]he executed the same in his [her] capacity, and that by his [her] signature on the
instrument, the individual or the person upon behalf of which the individual acted executed
the instrument.


NOTARY PUBLIC

JENNIFER C. PERSICO
Notary Public, State of New York
Qualified in Erie County
My Commission Expires May 24, 2006

SCHEDULE A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 80, Township 11, Range 7 of the Holland Land Company's Survey, bounded and described as follows:

On the West by lands formerly owned by Martin Diefenbach (see Deeds recorded in the Erie County Clerk's Office in Liber 96 of Deeds at page 376; Liber 98 of Deeds at page 35; and Liber 100 of Deeds at page 50), 68 chains and 76 links; north by Lot No. 84, 7 chains; east by a line parallel with the first mentioned boundary, 72 chains and 36 links; and southerly by the Eleven Mile Creek, containing 52 acres of land, be the same, more or less.

EXCEPTING from the above described premises that part lying south of the northerly line of Aero Drive and also that part lying north of the southerly line of lands taken by the State of New York by Appropriation recorded in the Erie County Clerk's Office in Liber 5350 of Deeds at page 268.