



Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

LAND RECLAMATION

Cheektowaga, Erie County

Site Number 915070

March 1998

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

LAND RECLAMATION Inactive Hazardous Waste Site Town of Cheektowaga, Erie County, New York Site No. 915070

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Land Reclamation inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40 CFR 300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Land Reclamation inactive hazardous waste site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, were addressed through the implementation of the Interim Remedial Measure (IRM) which consisted of capping the landfill. This ROD addresses the need for continued monitoring of the site to confirm that no potential threat to public health or the environment develops.

Description of Selected Remedy

Based upon the results of the site investigations and the Interim Remedial Measure (IRM) which consisted of capping the landfill in accordance with 6NYCRR Part 360, the NYSDEC is selecting a "No Further Remedial Action" and a Long Term Maintenance and Monitoring Plan for this site. The components of the selected remedy are as follows:

- ◆ Maintenance of the landfill cap, gas system, and monitoring wells.
- ◆ Monitoring of overburden and bedrock wells.
- ◆ Surface water sampling and testing.
- ◆ Gas Monitoring.

- ◆ Quarterly and annual reporting.

If monitoring suggests any impacts to Cayuga Creek or groundwater, appropriate actions will be taken.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/25/98
Date



Michael J. O'Toole, Jr. Director
Division of Environmental Remediation

TABLE OF CONTENTS

SECTION	PAGE
1: Site Location and Description	1
2: Site History	1
2.1: Operational/Disposal History	1
2.2 Remedial History	2
2.3 Interim Remedial Measure (IRM)	2
3: Current Status	2
3.1: Summary of Site Investigations	2
3.2: Summary of Human Exposure Pathways	7
3.3: Summary of Environmental Exposure Pathways	7
4: Enforcement Status	8
5: Summary of the Remediation Goals	8
6: Summary of the Selected Remedy	9
7: Highlights of Community Participation	10
Table 1 - Phase II Investigation Data	4
Soils	4
Sediments	4
Surface Water	4
Groundwater -Overburden and Bedrock wells	5
Appendix A: Responsiveness Summary	
Appendix B: Administrative Record	
 FIGURES	
Site Location Map	Figure 1
Land Reclamation Landfill	Figure 2
Monitoring wells and sample locations	Figure 3
Location of Long Term Monitoring Wells	Figure 4
Location of Gas Monitoring Probes	Figure 5

RECORD OF DECISION
Land Reclamation
Cheektowaga, Erie County, New York
Site No. 915070
March 1998

SECTION 1: SITE LOCATION AND DESCRIPTION

This approximately 40 acre site is located on Indian Road and Broadway in Cheektowaga, New York (Figures 1 and 2). The site is bordered by rail road tracks and a former landfill locally known as the Old Land Reclamation site (Site I. D. # 915129) on the east, a junk yard and Indian Road on the north, a Construction and Demolition landfill on the west, and Cayuga Creek on the south. The site is located within the creek flood plain. The creek is classified as Class C in that area. A classification of C means the stream shall be maintained to allow fishing by ensuring fish propagation and survival.

The site consists of a large landfill of approximately 33 acres and a solid waste transfer station.

The fill in the landfill area varies from 20 to 50 feet in height and is covered with a clay cap. Below the land filled waste, the site area is an alluvial unit which is composed of silt and medium-type sand. The alluvium is located directly below the landfill material and directly above the bedrock. The bedrock is known as the Onondaga Limestone formation which varies from approximately 18 to 26 feet below the ground surface. Soil

In the vicinity of the landfill, groundwater moves south through the alluvium toward Cayuga Creek. Groundwater movement in the bedrock is to the southwest. There also appears to be a downward gradient between the alluvium and the bedrock aquifers.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

From 1950 to 1983, the site was used for disposal of municipal and industrial wastes. Land Reclamation, Inc. owned and operated the site from 1965 to the 1970s, while NEWCO Waste Systems operated this landfill from the 1970s to 1982. BFI acquired the property in 1982 but suspended landfilling operations in 1983. Currently BFI is operating a refuse transfer station on one portion of the site.

Between 1965 and 1979 quantities of industrial wastes such as tetrachloroethylene, wood chips containing phenol and cyanides, oil sludge, soil contaminated with sulfur, waste acids, pine tar pitch, incinerator ash, phenolic binders, inks, flyash, acids, laboratory samples, waste colors, and paint wastes etc. were disposed at this landfill by a number of industries. It is estimated that the amount of industrial waste disposed at this site exceeds 2,500 cubic yards. According to the New York State Regulations (6NYCRR Part 371), some of the wastes were determined to be hazardous wastes.

From 1965 to 1982, the Land Reclamation site had a history of numerous complaints and citations with regard to daily operation and disposal of industrial wastes. The violations at this site included blowing

papers, inadequate cover, odors, leachate outbreaks, rodent and insect infestations, and disposal of industrial wastes.

In 1979, Land Reclamation entered into an order on consent with the NYSDEC to bring the site into compliance with regulations governing solid waste landfills (6NYCRR Part 360) and performed a hydrogeologic investigation. In 1992, the 32" and 42" storm drains, which run under the site, were plugged.

2.2: Remedial History

The site is currently listed in New York State's Registry of Inactive Hazardous Waste Disposal Sites as a Class 3. The classification 3 means that site does not present a significant threat to public health or the environment and action may be deferred.

In 1983, BFI took over NEWCO Waste Systems and closed the landfill in 1985. The landfill closure consisted of covering all the landfill except the western landfill slope with a 2 foot clay cap.

2.3: Interim Remedial Measure (IRM)

NYSDEC found several deficiencies with the BFI's 1985 closure and did not approve it. In 1995 Land Reclamation, Inc. entered into a consent order with NYSDEC to close the landfill in accordance with 6NYCRR Part 360. The final landfill closure consisted of capping the entire landfill, taking measures to control erosion, installation of a gas venting system, installation of monitoring wells, removal of waste from an adjoining wetland, and fencing the site. The closure started in October 1995 and was completed in August 1997. The project cost was approximately \$5.6 million. The landfill capping consisted of 18" of low permeability clay with a permeability less than 1×10^{-7} cm/second. In some areas a 40-mil Linear Low Density Polyethylene (LLDPE) liner was used instead of clay. The clay layer or LLDPE were followed by 24" protective cover soil layer and a 6" topsoil layer. Since the landfill contains a large volume of putrescible (decaying) waste which generates methane gas, a passive gas venting system was installed during capping of the landfill. The system includes 34 deep gas vents installed through the waste fill. Also, a landfill gas venting system consisting of a cut-off trench and vents was installed along the northern boundary of the site. Erosion control at the site consisted of vegetation of the capped area, fabric-formed concrete lining of the creek embankment and lining of the drainage swales with crushed stones. The details of this remedial action is outlined in the December 1994 closure plan entitled "*Land Reclamation Landfill BFI Project No. 93P115*" prepared by Engineering Science.

SECTION 3: CURRENT STATUS

3.1: Summary of the Site Investigations

To determine the nature and extent of environmental problems at this site, the following investigations were conducted:

1979 - RECRA Research and Wehran Engineering - Hydrogeologic Investigation:

Groundwater samples were collected from three test pits and three wells. Seven surface water samples were collected along Cayuga Creek during this privately funded investigation.

The investigation concluded that leachate from the site was entering the storm sewer shown in Figure 3 and the groundwater and surface water was being impacted as a result of the landfilling activities.

January 1986 - NYSDEC - Phase I Investigation:

To collect preliminary information on this site, a State funded Phase I Investigation was conducted. No field work was done during this investigation.

October 1988 - USEPA (NUS) -Site Inspection Report:

NUS corporation was contracted by USEPA under the Federal Superfund program to perform a site assessment of the site. NUS collected three sediment and four surface soil samples to make an assessment of the site conditions. Testing of these samples for organic and inorganic parameters showed significant levels of polycyclic aromatic hydrocarbons (PAHs) in soil and sediments.

During their site investigation, NUS also observed leachate seeps flowing from the landfill into Cayuga Creek.

September 1991 NYSDEC Phase II Investigation

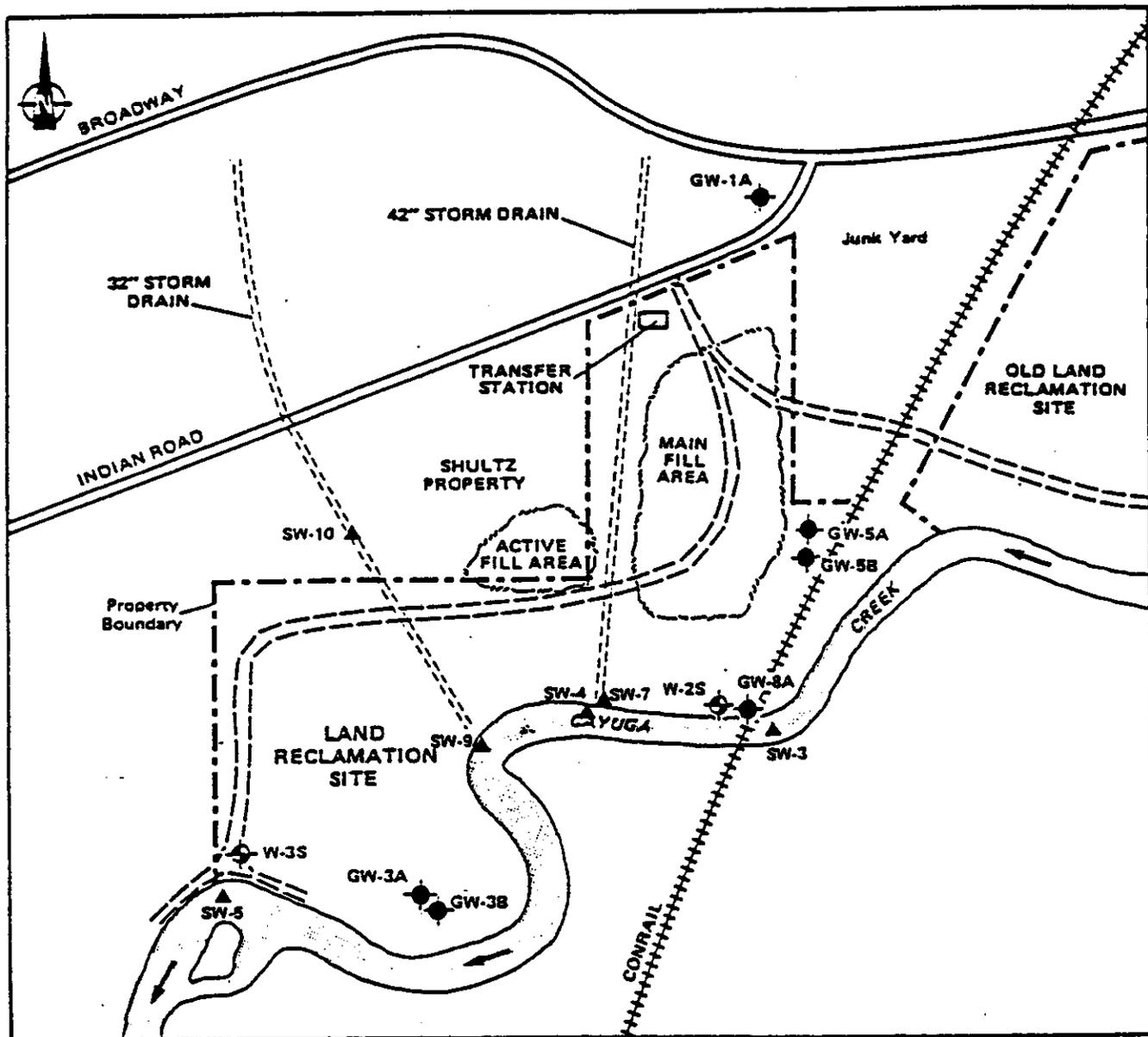
The purpose of this investigation was to provide a comprehensive site contamination assessment. The Phase II field investigation included a geophysical survey, installation of two overburden (shallow) and four bedrock (deep) groundwater monitoring wells, collection of sediment and surface soil samples from Cayuga Creek. The sampling locations are shown in Figure 3.

Surface water, sediment, subsurface soil and groundwater samples were tested for about 150 parameters commonly called the Target Compound List parameters.

Nature and Extent of Contamination

Substantial data was collected during site investigations to determine the impacts of waste materials in the landfill on groundwater and the nearby creek. Additional data is being collected under the on going monitoring program. These investigations concluded that groundwater and Cayuga Creek were being impacted by the presence of waste materials in the landfill.

The analysis of the media tested during site investigations, which reflects the data collected prior to capping of the landfill under an IRM, is as follows:



NOT TO SCALE

KEY:

- ▲ Surface Water/ Sediment Sample
- ◆ E & E Monitoring Well
- ◊ Existing Monitoring Well

Figure 3
 MONITORING WELLS AND SAMPLE LOCATIONS
 AT LAND RECLAMATION SITE

TABLE 1
(Phase II Investigation Data)

SOILS (Subsurface Soils)			
PARAMETER	CONCENTRATION RANGE - ppm	SCGs or Soil Background ppm	Frequency Exceeding SCGs
Chromium	9.1-10.3	10	1 of 2
Iron	12,000-13,600	2000	2 of 2
Nickel	9.5 - 31.1	13	1 of 2
Zinc	48.5 - 54.1	20	1 of 2

SEDIMENTS			
PARAMETER	CONCENTRATION RANGE ppm	SCGs (Low effect Level)	FREQUENCY Exceeding SCGs
Chromium	14.6 - 33.9	26	2 of 4
Copper	41.4 - 58.6	16	4 of 4
Iron	1.7 % - 2.7 %	2 %	1 of 4
Manganese	278 - 551	460	1 of 4
Mercury	ND - 0.3	0.15	2 of 4
Nickel	23.4 - 34.3	16	4 of 4
Zinc	136 - 210	120 -270	4 of 4
Toluene	0 - 12 (ppb)	-	-

SURFACE WATER			
PARAMETER	CONCENTRATION (ppb)	SCGs (ppb)	FREQUENCY Exceeding SCGs
Benzene	ND - 8	6	1 of 6
Chlorobenzene	ND - 11	5	1 of 6
Aluminum	ND - 810	100	3 of 6
Iron	542 - 25,400	300	6 of 6
Cyanide	ND - 49	5.2	2 of 6

GROUNDWATER - OVERBURDEN WELLS

PARAMETER	CONCENTRATION ppb	WELL #	SCGs ppb	FREQUENCY Exceeding SCGs
Chloroethane	26	GW-5B	5	1 of 4
Benzene	17	GW-5B	ND	1 of 4
Chlorobenzene	50	GW-5B	5	1 of 4
Ethylbenzene	13	W-3S	5	1 of 4
Xylenes (Total)	17 85	GW-5B W-3S	5	2 of 4
Naphthalene	17	GW-5B	10	1 of 4
2,4 Dimethyl Phenol	2	W-3S	1	1 of 4
4-Chloroaniline	100	GW-5B	10	1 of 4
Chromium	53	GW-3B	50	1 of 4
Iron	81,300 79,500 94,100 31,600	GW-3B GW-5B W-2S W-3S	300	4 of 4
Lead	50 32 80	GW-3B GW-5B W-2S	25	3 of 4
Manganese	1,700 1,680 24,920 580	GW-3B GW-5B W-2S W-3S	300	4 of 4

GROUNDWATER - BEDROCK WELLS

PARAMETER	CONCENTRATION ppb	WELL #	SCGs ppb	Frequency Exceeding SCGs
Ethylbenzene	26	GW - 5A	5	1 of 4
Xylenes (total)	490	GW - 5A	5	1 of 4
Chromium	61	GW - 3A	50	1 of 4
Iron	1,750 86,400 406 11,700	GW- 1A GW - 3A GW- 5A GW - 8A	300	4 of 4
lead	65	GW - 3A	25	1 of 4
Manganese	2,000 45,500	GW - 3A GW- 8A	300	2 of 4

Soil

During NUS testing, surface soil was found to be contaminated with up to 97 ppm of total PAHs such as naphthalene, methylnaphthalene, fluoranthene, pyrene, and benzo (a) pyrene. The levels of metals such as chromium, iron, nickel, and zinc marginally exceeded the SCGs for subsurface soil samples during the Phase II investigation (see Table 1).

During the IRM, surface soils were capped. Exposure to surface soil contaminants found during NUS testing no longer exists.

Surface Water/Sediment

Three surface water and sediment samples were collected along the northern bank of Cayuga Creek during the Phase II investigation, along with three storm drain samples. Sampling locations are shown in Fig. 3.

As tabulated in Table 1, surface water standards were exceeded for benzene, chlorobenzene, aluminum, iron, and cyanide. For sediments, low effect levels of Sediment Criteria also exceeded for several metals such as chromium, copper, iron, mercury, nickel, and zinc. Traces of organics such as 2-butanone (25 ppb) and PAHs (up to 5.6 ppm) were also reported in sediment samples during NUS investigation.

Surface water samples along the creek were found to be contaminated with metals during the RECRA - Wehran investigation.

The surface water and sediment data was reviewed and levels of contaminants were not considered significant enough to warrant remediation of Cayuga Creek. The seeps observed during investigations prior to landfill capping have been eliminated. Now under the proposed remedy, surface water samples from the creek would be collected to ensure that creek is not being contaminated by this landfill.

Groundwater

The Phase II investigation evaluated groundwater contamination through sampling of overburden (GW-3B, GW-5B, W2S, and W3S) and the bedrock wells (GW-1A, GW-3A, GW-5A, and GW-8A). The well locations are shown in Figure 3.

Among the overburden wells, GW -5B and W - 3S showed the most contamination. As shown in Table 1, The groundwater standards were exceeded for chloroethane, benzene, chlorobenzene, 4 - chloroaniline, and 1,4-dichlorobenzene in GW - 5B and ethylbenzene, and 2,4 dimethyl phenol in W - 3S monitoring wells. The levels of xylenes also exceeded standards in both of these wells. NYS groundwater standards for some metals were exceeded in all the overburden wells.

The bedrock well GW-5A showed exceedance of standards for ethylbenzene and xylenes at concentrations of 26 and 490 ppb respectively. These concentrations were above the levels found in the upgradient wells at the Old Land reclamation site. No organics were found in the background well GW -1A. Chromium in GW -3A was found 3 times than the upgradient wells at the Old Land Reclamation site. Chromium was not detected in the background well GW -1A. Iron was above the GA Standards in all the bedrock wells, including the background bedrock well.

In general, the levels of metals found in the downgradient wells were above the levels in the background well GW-1A indicating that landfill has contributed to the groundwater contamination.

The levels of PCBs, phenols, and metals were found above the standards in groundwater during the RECRA - Wehran investigation.

With capping of the landfill, infiltration due to rain or snow has been greatly reduced. This should reduce the washing of chemicals in the landfill into groundwater and improve groundwater quality.

3.2 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Completed pathways which are known to or may exist at the site include:

- Ingestion of contaminated creek sediments by trespassers or on-site workers.
- Dermal contact with contaminated sediment or surface water by trespassers and on-site workers.
- ◆ Ingestion of contaminated groundwater through the use and consumption of water from the groundwater wells.

[Note: Currently, the NYSDEC has no confirmed information that groundwater is being used as a source of potable water; all nearby local residents are served by public water.]

3.3 Summary of Environmental Exposure Pathways:

This section summarizes the types of environmental exposures which may be presented by the site. The following pathways for environmental exposure have been identified:

- ◆ Fish and wildlife which use Cayuga Creek for habitat.
- Aquatic life (benthic organisms) in Cayuga Creek which would be in direct contact with contaminated sediments.
- Plants growing in the contaminated areas resulting from the site (along the landfill in the creek) may absorb contamination and incorporate it into the plant material; higher fauna may then be exposed to contamination through the ingestion of plant matter.
- ◆ Contamination of Cayuga Creek through leachate or groundwater contamination from site.
- Erosion of contaminants from the landfill due to floods in the creek which would transport the contaminants downstream thereby potentially effecting downstream habitat.

- ◆ Landfill gases could migrate underground and surface offsite.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Potential Responsible Party (PRP) for the site is Land Reclamation, Inc., a subsidiary company of BFI. The NYSDEC and Land Reclamation, Inc. entered into a consent order (#R9-4174-94-08) on July 17, 1995 to close the landfill under solid waste regulations (6NYCRR Part 360) and implement a Part 360 post-closure maintenance and monitoring plan.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established for this site. The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Reduce, control, or eliminate to the extent practicable the contamination present in the landfill.
- Eliminate the potential for direct human or animal contact with the contaminated fill and soils on site.
- Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.
- Prevent contamination of the Creek through leachate seeps from the landfill
- Prevent the offsite migration of landfill gases.
- Provide for attainment of SCGs for groundwater quality at the limits of the area of concern (AOC), to the extent practicable.

Community Acceptance:

Concerns of the community regarding the site investigations, IRM - Closure Plan reports, and the Proposed Remedial Action Plan were evaluated. A "Responsiveness Summary" has been prepared that describes public comments received and how the Department will address the concerns raised. This is included as Appendix A.

SECTION 6: SUMMARY OF THE SELECTED REMEDY.

Based upon the results of the site investigations and the IRM that has been performed at this site, the NYSDEC is selecting No Further Action with a Long Term Operation and Maintenance (O&M) plan. The O & M plan will continue for at least a period of 30 years . Periodically, the O & M plan will be reevaluated for further action. The State believes that with the completion of landfill cap, which is described in section 3.3, has accomplished this objective. The existing surface water and sediment data were reviewed and the levels of contaminants were not considered significant enough to warrant remediation of Cayuga Creek. During capping , all potential leachate seeps were eliminated. A leachate collection system was not considered for this site as the impermeable cap will minimize recharge to waste mass due to rain or snow and will minimize the likelihood of new seeps. An active gas collection system was not considered as the quantity of gas generated at this landfill did not warrant such a system. The locations of disposal of industrial/chemical wastes in this landfill could not be identified sufficiently to consider excavation of hot spots. Also, while the quantity of industrial wastes (approximately 3000 yd³) in the landfill is small, as compared to the municipal and C & D wastes (approximately 1.1x10⁶ yd³), it is not localized enough to allow for effective hot spot removal.

With the landfill cap in place, further contamination of the creek due to seeps or groundwater would be greatly reduced. If monitoring shows large increases in contaminant concentration in either Cayuga Creek or groundwater presenting a significant threat to human health or the environment, appropriate evaluations and actions will be taken to address the threat.

Long Term Maintenance and Monitoring Plan:

The Post-Closure Monitoring and Maintenance Plan will consist of the following activities.:

1. Monitoring of overburden and bedrock wells (Locations shown in Figure 4)
The monitoring wells will be sampled quarterly and tested for the site specific contaminants.
2. Surface water sampling and testing for the site specific parameters.
3. Gas Monitoring:
Gas monitoring probe at 10 different locations (See Fig. 5) will be used for combustible gas/methane monitoring. Testing will be done quarterly.
4. Maintenance:
The maintenance will include site maintenance (Mowing, Landfill cap erosion repairs, Revegetation, etc.) and gas system maintenance (Vent and probe repairs).
5. Reporting:
Annual and quarterly reports will be submitted to NYSDEC during the post-closure maintenance and monitoring period.

If monitoring shows large increases in contaminant concentration in either Cayuga Creek or groundwater presenting a significant threat to human health or the environment, appropriate evaluations and actions will be taken to address the threat.



LEGEND :

- WATER TABLE LOCATION
- GROUND WATER
- GROUND WATER TABLE
- GROUND WATER TABLE
- GROUND WATER TABLE
- GROUND WATER TABLE



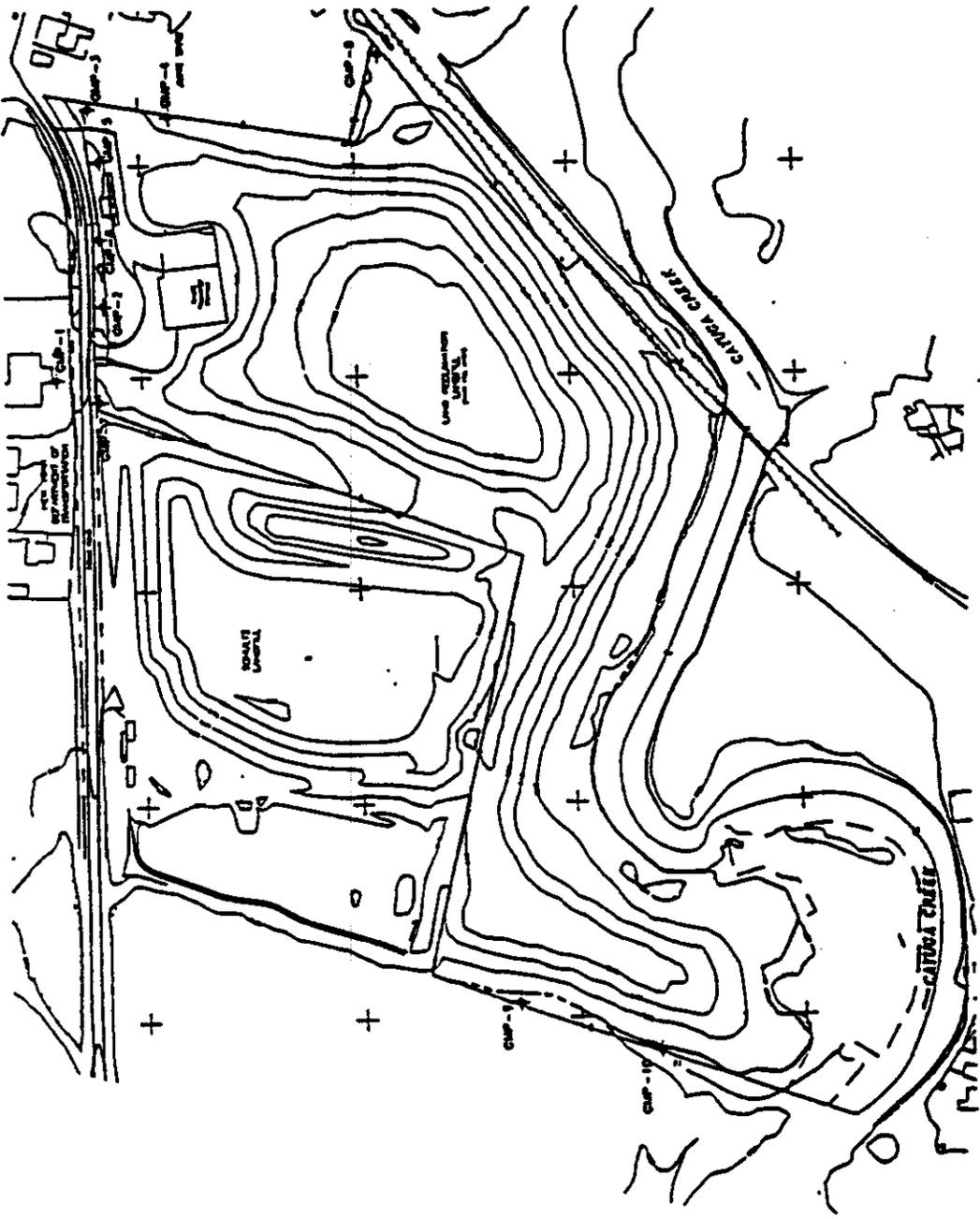
Figure 5

BY LAW RECLAMATION UNIT

**GAS MONITORING PROBE
LOCATION MAP**

CHARTERED ENGINEERING - SCIENCE
CORPORATION - MEMBERSHIP FIRM
ONTARIO, CANADA

ES



Post-Closure Cost:

The post closure, present worth costs, associated with monitoring of groundwater , surface water, and gas; site inspections; and maintenance, for a period of 30 years, is estimated to be \$538,000 based upon an annual O&M cost of \$35,000 at a discount rate of 5%.

SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION

Citizen Participation (CP) activities are implemented to provide concerned citizens and organizations with opportunities to learn about and comment upon the investigations, studies, and IRM pertaining to the Land Reclamation site. All reports were available for public review in the document repository. A public contact list was developed and used to distribute fact sheets and meeting announcements.

On January 27, 1998 a public meeting was held at the Cheektowaga Town Hall, Cheektowaga, NY to describe the Proposed Remedial Action Plan. Prior to the meeting, an invitation and Fact Sheet were mailed to those persons on the contact list. The public comment period extended from January 16, 1998 until February 16, 1998 . Comments received regarding the Proposed Remedial Action Plan have been addressed and are documented in the Responsiveness Summary (Appendix A).

Appendix A
RESPONSIVENESS SUMMARY
Land Reclamation Site
Cheektowaga, Erie County
Site No: 915070

This document summarizes the comments and questions received by the New York State Department of Environmental Conservation (NYSDEC) regarding the Proposed Remedial Action Plan (PRAP) for the subject site. A public comment period was held between January 16, 1998 and February 16, 1998 to receive comments on the proposal. A public meeting was held on January 27, 1998 in the Cheektowaga Town Hall, Cheektowaga, New York to present the results of the investigations and interim remedial measures performed at the site to describe the PRAP. The information below summarizes the comments and questions received and the Department's responses to those comments.

Description of the Selected Remedy

The selected remedy is No Further Action with a Long Term Maintenance and Monitoring and is the same as was proposed in the PRAP. The major elements of the selected remedy include:

1. Quarterly monitoring of overburden and bedrock wells. The wells will be tested for site specific contaminants.
2. Surface water sampling and testing for the site specific parameters.
3. Quarterly gas monitoring for methane/combustible gas.
4. Site maintenance will include mowing, landfill cap erosion repairs, revegetation, and gas system maintenance.
5. Quarterly and annual reporting.

The information given below is summarized from the January 27, 1998 public meeting and letters received during the comment period.

I Questions/Comments Raised During the Public Meeting:

- Q 1. The Town of Cheektowaga was promised that the Environmental Advisory Committee (EAC) would have input in the development of landscaping plans and plantings. Will this still happen and will a tour of the site be set up so they may see what has been done ? Arrangements could be made through John Marriott - EAC.
- A. It is the Department's understanding the BFI contacted Town of Cheektowaga officials on at least two occasions prior to finalizing the plans for site landscaping and wildlife

enhancements. However, as BFI did not receive a response from the Town, the plans were implemented without comment. The Department has discussed this matter with BFI, and it is understood that the company would welcome the Town or public to assist in the development and implementation of such plans on a volunteer basis.

The Department has relayed the Town's request for an onsite tour of the wetlands and habitat improvements to BFI. The company has expressed a willingness to facilitate such a site visit for the Town Conservation Advisory Council, and has been referred to Mr. John Marriott, Chairman of the council to coordinate this tour. BFI has indicated that it would probably be most beneficial to arrange for this tour to be held in the spring, most likely in April or May. Arrangements can be made through Mr. Thomas Davide (BFI) at 716-282-2676

Q 2. Has the NYSDEC considered the impact Buffalo Crushed Stone and their expansion will have on the cap, monitoring wells, groundwater flow and direction, changes in the water table, and creek?

A. Any plans by Buffalo Crushed Stone, Inc. (BCS) to expand their quarry operation to areas adjacent to the Land Reclamation landfill will be subject to a thorough technical review by the Department to ensure that all potential environmental impacts to offsite areas are considered. This review will occur at the time that BCS submits an application for a permit to expand their mining operation to the Department, which at this time, has not occurred. Until such a permit application is received, it is premature for the Department to evaluate BCS plans for expansion, which are not yet fully developed.

Q 3. Has the cap been inspected after the recent flooding?

A. The cap is inspected by BFI personnel on a monthly basis, and it is reported that no damage has occurred to the cap due to the recent flooding along Cayuga Creek. Some minor erosion rills have been noted in areas of the cover system. These are considered to be routine post closure maintenance items which will be remedied by BFI as weather conditions permit in the spring of this year.

Q 4. Was a "french drain" (a collection system) considered in order to control any potential leachate breakouts?

A. During recapping of the site all the potential leachate seeps have been eliminated. Because of the impermeable cap, recharge to the waste mass due to rain or snow water will be minimized and therefore, leachate seeps are not likely to occur in the future. Therefore, a french drain was not believed to be necessary for the control of leachate, and was not incorporated into the design.

Q 5. Were the impacts of the quarry considered in the remediation's design and operation and maintenance (O&M)?

A. As stated above, all potential impacts from the proposed quarry expansion to offsite areas, including the Land Reclamation landfill, will be thoroughly evaluated by the Department at the time that a permit application is submitted by BCS.

Q 6. Will the quarry expansion cause changes in the direction of groundwater flow which might lead to exposure of the landfill's leachate and become a threat to public health?

A. At this point it is not certain whether or not groundwater flow direction will be affected by the quarry expansion. This will be evaluated during the quarry expansion permitting process. The long term monitoring would identify groundwater problems, if they do occur, and corrective action would be taken before they become a threat to public health or the environment.

Q 7. What will prevent leachate from going vertically down into the groundwater?

A. It is noted that the bottom of the landfill is not lined and contaminated leachate can migrate vertically into the groundwater. However, the impermeable cap will greatly reduce the infiltration into the landfill. This will reduce concentrations of contaminants entering into groundwater and should improve the groundwater quality in the long term.

Q 8. Was down stream sediment sampling done?

A. Sediment samples from Cayuga Creek were collected during the EPA (NUS) investigation in 1988 and the NYSDEC Phase II investigation in 1991. The last downstream sample was collected near the Land reclamation and Schultz Landfill property line. Sediment data was reviewed and contaminant levels were not considered significant enough to warrant remediation of Cayuga Creek.

Q 9. If BFI is doing the monitoring, who will monitor BFI?

A. BFI will retain an outside professional consulting company to do the monitoring. NYSDEC will oversee the monitoring activities. The laboratory which analyzes the samples must be certified through a NYS quality control performance program, therefore providing for a built in cross check of the analytical results. Quarterly and annual reports are submitted to the Department for review to insure that proper protocols are followed.

Q 10. Will DEC sample the site on occasion?

A. In order to verify some data, NYSDEC on occasion, will conduct its own sampling or split samples during sampling by the owner or its consultant and have these tested independently.

Q 11. How did the design address potential leachate discharges from the landfill?

A. The materials used to "cap" the landfill included compacted clay and in some areas a polyethylene liner was installed to prevent waste material from coming into contact with surface precipitation. This design will eliminate the vast majority of water that could possibly generate leachate over time. In addition, routine monitoring of the landfill will ensure that leachate discharges are addressed in the unlikely event they occurred.

Q 12. Would the NYSDEC provide a copy of the closure plan to Town officials?

A. Yes. The Town Engineering Department will be provided a copy of the final closure plan and Certification report. A copy was sent to the Town on January 30, 1998.

Q 13. Did you sample by Rowley Hollow and Deer Trail? Will Rowley Hollow and Deer Trail be sampled in the future? Was the wooded area between the south side of the creek and Rowley Hollow tested?

Q 14. Did the NYSDEC ever sample the land on the opposite side of Cayuga Creek where homes are built? If not, would they consider sampling to ensure contaminants are not present in the backyards?

A. No. The NYSDEC did not sample the land on the opposite side of the stream but samples of sediment and water were taken from Cayuga Creek. Based on the results of the data from the sediments and water it was determined that the levels of contaminants were not sufficient to warrant additional sampling on land or of downstream sediments. Moreover, the creek acts as a barrier between the landfill and the properties south of the creek. No sampling is planned from properties on Rowley Hollow and Deer Trail.

Q 15. Is the NYSDEC aware that some homes on the south side of Cayuga Creek have wells that can be used for potable use? Have these been sampled?

A. The NYSDEC and NYSDOH were not aware of the location of potable water for drinking and other purposes in the immediate area of the landfill. If there are residential wells that are being used for drinking or other purposes, the homeowner should contact Mr. Michael Rivara at NYSDOH Tel No. 1 - 800 - 458 - 1158 Ext. 6309. Evaluation and arrangement to sample the wells for contaminants of concern associated with the landfill will be made at that time.

II Written Comments Received:

Q 16. Has the DEC or applicant, through the course of developing the PRAP, considered the impacts of an expansion of Buffalo Crushed Stone's (BCS) quarry operations to an area much closer to the BFI/Land Reclamation site? DEC and/or the applicant should outline the scope of investigation that must be undertaken by Buffalo Crushed Stone to evaluate any potential impacts.

- A. The proposal by BCS to expand their existing quarry operations to the area on the east side of Indian Road first surfaced after BFI was in the process of completing the closure of the Land Reclamation landfill. Regardless, the proposed quarry expansion would not have affected the design of the landfill closure cover system or post closure monitoring system. BCS is responsible for insuring that any development which may occur on their property does not produce a negative impact upon surrounding lands. As such, any plans to mine the property adjacent to the Land Reclamation landfill cannot be allowed to impact the cover system and monitoring well network in place.

Currently, the Department has not received an application from BCS for an expansion of their mining operation. It is the Department's understanding that BCS is currently in the process of seeking a re-zoning of the land use for the proposed quarry expansion area from the Town of Cheektowaga. This process will require a detailed technical review of the proposal, with a particular emphasis on the potential for hydrogeological impacts, both to the area groundwater regime and the waters of Cayuga Creek. The Town has subcontracted with an engineering consultant to coordinate this environmental impact review, and the Department will be involved in the review process as necessary, to insure that all environmental matters are thoroughly addressed. Furthermore, if and when an application for a mining expansion is submitted to the Department by BCS, any and all potential impacts to surrounding properties, in particular the Land Reclamation landfill, will be thoroughly evaluated by Department technical staff at that time.

- Q 17. Will the acceptance of the final design including Operation and Maintenance be conditioned upon such evaluation particularly upon the integrity of the capping system and need for repairs with respect to the potential for increased creek or ground water contamination if the nearby land use shifts dramatically to quarrying? Certainly, the proposed monitoring well scheme must also shift.

- A. The Department does not believe that the proposal by BCS for expansion of their mining operation will impact upon the proposed remedial action for the Land Reclamation landfill. As stated in the response to Question 16, when BCS submits a mining permit application to the Department for review, the scope of the investigation will be properly and thoroughly addressed at that time.

- Q 18. The Town is currently engaged in a SEQR review of the proposed quarry expansion. Therefore, DEC should provide a list of issues that Buffalo Crushed Stone should address relative to the effects of adjacent blasting at surface or below ground elevations, as well as other mining activities, upon the integrity of the BFI/Land Reclamation site and PRAP.

- A. Regarding the potential impacts to the landfill from the possible blasting activities associated with BCS operations, the applicant will be required to address, but not be limited to, the following issues; impacts to the stability of the landfill cover system,

the integrity of the groundwater monitoring well system, the landfill gas collection and venting system, and the surface water drainage system.

- Q 19. What effect might nearby quarrying operations have upon the viability of the wetlands and habitat (aviary) areas as long-term mitigation devices ? Additionally, the Town Conservation Advisory Council had previously been assured that they would be consulted concerning the forgoing features and would be invited to tour the wetlands and habitat areas.
- A. The final landfill closure design and post closure maintenance and monitoring plan have been approved by the Department. It should be noted that the responsible party, BFI, is committed to the long term (minimum 30 years) post closure maintenance and monitoring of the landfill remediation as required by the order on consent executed with the Department. During this period, should conditions warrant any modifications to the closure system, or to the groundwater monitoring network, the Department may require that BFI undertake such activities. Also, as stated above, the Department will review any proposal for mining of the adjacent BCS property to insure that such activities do not negatively impact surrounding properties, including wetlands and the Land Reclamation landfill site.
- Q 20. Leachate breakouts leading to the creek were reported. Was the capture of leachate through a french drain or like system considered during closure design and if so, why was the system not included in the final design.
- A. Responded to in answer to question # 4.
- Q 21. Considering the site's hydrogeology, do they anticipate that the establishment of a quarry to the west will impact their monitoring program.
- Q 22. Would, considering that groundwater flow patterns may change with the quarry expansion, which could lead to direct contact of humans with groundwater, would their conclusions regarding human health impacts change ?
- A. Questions 21 and 22 raise issues associated with the proposed quarry expansion. Responses are given in answers to questions 16 to 19.
- Q 23. No sampling was done in the residential area south of the creek. We residents are concerned with not only the possible contamination of groundwater but also air pollution in the immediate vicinity of the Land Reclamation and Schultz Landfill as well as Buffalo Crushed Stone. Members of my family have suffered from tumors or allergies. NYSDEC should collect and analyze health data from this area to determine if there is a connection between these facilities and the health of nearby residents. We strongly oppose downgrading the Land Reclamation site to "No Further Action" until such a health study is performed.

- A. Given the type of landfilling operations conducted at the site, and the fact that Cayuga Creek presents an effective barrier to contaminant migration via groundwater or surface water, the Department believes that there is no known or suspected pathway for contaminants to migrate from the landfill to the residential area south of Cayuga Creek. Therefore, there is no known, valid reason for conducting environmental sampling in this area.

Any residents whose physician feels their patient's condition is associated with exposures from these sites can ask their physician to call Ms. Mary C. Schultz at 1-800-458-1158 ext. 6212 to arrange to consult with a NYSDOH physician.

The Land Reclamation Landfill has already been capped to cover all the contaminated areas and the cap conforms to the NYSDEC 6NYCRR Part 360. Therefore, "No Further Action" was selected. The selected remedy 'Long term Monitoring and Maintenance' will ascertain that this landfill does not release any further contamination which could be harmful to human health and the environment.

- Q 24. Has there been any kind of tests done on the animal population in the area? The deer population has grown so much that these animals are always in our yards eating and drinking out of Cayuga Creek.

- A. No testing of animals has been done. The concentrations of contaminants in Cayuga Creek surface water and sediments are not elevated enough to consider any animal testing from or around the site area.