ROD File

Department of Environmental Conservation

Division of Hazardous Waste Remediation

Town of Clay Landfill

Site Number 734034
Onondaga County, New York

Record of Decision

December 1994

Funded Under Title 3
of the
1986 Environmental Quality Bond Act

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor*

DECLARATION STATEMENT - RECORD OF DECISION

Clay Landfill Inactive Hazardous Waste Site
Town of Clay, Onondaga County, New York
Site No. 734034

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Clay Landfill 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 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Clay Landfill 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 in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Clay Landfill and the criteria identified for evaluation of alternatives the NYSDEC has selected an engineered cap and environmental monitoring with contingencies for evaluation of groundwater and/or landfill gas treatment if necessary based on long-term monitoring results. The components of the remedy are as follows:

- an engineered cap consistent with 6NYCRR Part 360 regulations;
- long-term monitoring of groundwater, surface water, and landfill gas;
- a contingency that if based on long-term monitoring, groundwater quality does not improve, groundwater treatment will be reconsidered; and
- a contingency that landfill gas treatment will be re-evaluated if gas monitoring indicates that this is necessary.

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 statutory preference for remedies that reduce toxicity, mobility, or volume as a principal element.

December 23, 1994
Date

Ann Hill DeBarbieri
Deputy Commissioner

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RECORD OF DECISION

"CLAY TOWN LANDFILL"
Town of Clay, Onondaga County, New York
Site No. 734034
December 1994

SECTION 1: SITE LOCATION AND DESCRIPTION

The Clay Landfill is a 22-acre inactive hazardous waste disposal site (NYSDEC No. 734034) in the Town of Clay, Onondaga County, New York. The site is located on Oak Orchard Road east of the intersection of Oak Orchard and Henry Clay Boulevard. The landfill property, once used as farmland, is situated in a rural setting with the NW corner approximately 300 feet from the Oneida River (see Figure 1). Year round residences are located between the landfill and the Oneida River.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

The Clay landfill was reportedly first used for dumping in 1956 and operated as a municipal sanitary landfill from approximately 1973 to 1978 accepting on average approximately 90 tons of solid waste per day. In 1975, the Onondaga County Solid Waste Disposal Authority (SWDA) assumed operation of the landfill and began accepting both residential and industrial waste. Prior to SWDA's operation of the landfill, the Town of Clay accepted only residential waste.

The documentation of hazardous waste disposal on-site consists of depositions taken from employees of various industries in the Syracuse area. These depositions indicate that solvents and PCB contaminated oil and articles were disposed of in an improper manner at the Town of Clay Landfill. Furthermore, the wastes described in the depositions are the same wastes identified by local industries in the Community Right-to-Know (RTK) Survey as wastes generated and disposed of in an unknown location.

2.2: Remedial History

In 1986 a hydrogeologic study of the Clay Landfill was conducted. Laboratory analysis of groundwater samples obtained during March 1986 indicated that New York State groundwater standards were exceeded in on-site monitoring wells. Benzene, phenols, arsenic, iron and manganese exceeded standards. Additionally, the drainage ditches around the site have shown low levels of PCB contamination.

As a result of that study an "Order on Consent" was signed by New York State Department of Environmental Conservation (NYSDEC) Commissioner Jorling on November 30, 1990. The Order requires the Town to perform a full remedial investigation/feasibility study and remedial program for the Clay Landfill.

The Town has completed the Remedial Investigation and Feasibility Study to address the contamination at the site.

SECTION 3: CURRENT STATUS

3.1: Summary of the Remedial Investigation (RI)

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two "phases." The initial results of the first phase were verified in an expanded second phase supplemental field investigation. This work was conducted between September 1991 and December 1993. A two volume report, entitled "Clay Landfill Remedial Investigations;" Volume I: Technical Report and Volume II: Data, Figures, and Appendices (dated December 1993) has been prepared.

The RI activities consisted of the following:

- Geophysical survey to locate boundaries of waste, investigate suspected hot spots; and study the depth of cover.
- Installation of soil borings and monitoring wells for analysis of groundwater as well as physical properties of soil and hydrogeologic conditions.
- Excavation of test pits to locate boundaries of waste, investigate suspected hot spots, determine depth of cover material, and investigate the existing leachate collection system.
- Air investigations to study background and site derived volatile organic compound contributions to the atmosphere, potential PCB's emanating from the site, and combustible gas emissions.
- A radiation survey to scan the site for radioactive decay emissions.
- Piezometer installations to monitor anticipated groundwater table lowering within the landfill after capping. The associated borings also helped study the characteristics of intermediate and daily cover layers.

Sampling locations are shown on Figure 2. The analytical data obtained from the RI was compared to Applicable Standards, Criteria, and Guidance (SCGs) in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified for the Clay Landfill site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup

guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

Based upon the results of the remedial investigation, in comparison to the SCGs and potential public health and environmental exposure rates, certain areas and media of the site require remediation.

During site investigations both municipal and industrial wastes were observed in test pits. As an uncapped, 20 acre landfill with a maximum height of 45 feet, the in-place waste will continue to impact the environment as it decays and contaminants mobilize in groundwater, surface water and air. The mobilized constituents could adversely impact fish bearing streams and the Class B Oneida River found approximately 300 feet from the landfill. Year round residences, currently supplied with public water, are situated between the landfill and the Oneida River. The groundwater between the landfill and the river does not meet groundwater or drinking water standards for iron, manganese, and sodium because of impacts from the landfill.

The following compounds have been found to exceed groundwater quality standards on-site: iron, manganese, sodium, chloroethane, methylene choride (also detected in the blank), benzene, chlorobenzene, ethylbenzene, xylene (total), 1,4-dichlorobenzene, and 1,2-dichlorobenzene. The maximum exceedances of groundwater standards are shown in Table 1.

Combustible gases appear to be migrating laterally through the landfill and have been recorded at 100 percent of the lower explosive limit (within the waste) on the northern slope of the landfill in the direction of the river and residences.

3.2 Summary of Human Exposure Pathways:

Possible human exposure pathways associated with the Clay Landfill site include inhalation of ambient air, inadvertent ingestion of soils, skin contact with soils, and skin contact with leachate seeps. The Risk Assessment used the extremely conservative assumption that, although never detected in ambient air polycholorinated biphenyls (PCBs) may be present at one-half the detection limit in air. Under this assumption, the Risk Assessment concluded that there is a very slight risk associated with inhalation of air on the site itself (below the one in a millon risk level usually deemed acceptable), and even less risk associated with inhalation of air off the site. The risk assessment indicated a low level of concern for exposure to site surface soils.

3.3 Summary of Environmental Exposure Pathways:

Possible wildlife exposure pathways associated with the Clay Landfill site include inadvertent swallowing of soil and leachate by wildlife. For ingestion of contaminated soil and leachate seeps combined, only arsenic residues appear to present concerns for wildlife toxicity if long-term (chronic) exposure continues. In an uncapped condition, the contaminants would continue to mobilize in groundwater and surface water and could adversely impact fish bearing streams and the Oneida River.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and the Town of Clay entered into a Consent Order on November 30, 1990. The Order obligates the Town of Clay to implement a full remedial program and allows reimbursement to the Town of Clay up to 75 percent from the State under the 1986 Environmental Quality Bond Act (EQBA).

The following is the chronological enforcement history of this site.

Orders on Consent

Date	Index	Subject
7/23/76	Case No. 3336	Operation and Maintenance of Landfill
11/30/90	A7-0236-90-06	Implementation of Remedial Program

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. These goals, established under the guideline of meeting all standards, criteria, and guidance (SCGs) and protecting human health and the environment, include:

- *Reduce, control, or eliminate the contamination present within the soils/waste on site and the generation of leachate within the fill mass.*
- *Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on site.*
- *Eliminate the potential for direct human or animal contact with the contaminated soils on site.*
- *Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.*
- *Provide for attainment of SCGs for groundwater and surface water quality at the limits of the area of concern (AOC).*

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the Clay Landfill site were identified, screened and evaluated in the Feasibility Study. This evaluation is presented in the report entitled Clay Landfill Feasibility Study September 1994. A summary of the detailed analysis follows.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated soils, groundwater and landfill waste at the site.

Alternative No. 1 - No Action/Limited Action

Present Worth:	$570,000
Capital Cost:	$ 71,000
Annual O&M:	$ 44,300
Time to Implement:	2 Months

The no action/limited action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring and fencing only, allowing the site to remain in an unremediated state. The exact sampling locations, frequency of sampling, and testing parameters will be established in the long-term monitoring plan. In general, groundwater, surface water and landfill gas will be sampled in accordance with 6 NYCRR Part 360 requirements

Alternative No. 2 - Soil Cover Plus Limited Action

Present Worth:	$2,230,000
Capital Cost:	$1,650,000
Annual O&M:	$ 51,300
Time to Implement:	6 Months

Alternative 2 consists of repairing or upgrading the existing soil cover by means of regrading and revegetation along with implementing the limited action items, namely monitoring and fencing the site. An additional two feet of soil cover which would support vegetation would be placed over the entire landfill surface and a perennial vegetative cover would be planted which would require little maintenance.

Alternative No. 3 - Engineered Cap Plus Limited Action

Present Worth:	$4,930,000
Capital Cost:	$4,290,000
Annual O&M:	$ 56,300
Time to Implement:	One Year

Alternative 3 consists of constructing an engineered cap consistent with 6NYCRR Part 360 regulations along with implementing the limited action items. The cap would consist of a gas venting layer, a low permeability barrier layer, a barrier protection layer, and a topsoil with a perennial vegetative cover layer.

Alternative 3 includes a contingency that, if, based on long-term monitoring, groundwater quality does not improve, groundwater treatment would be reconsidered. It also includes the contingency that landfill gas treatment would be re-evaluated if gas monitoring indicates that this is necessary.

Alternative No. 4 - Engineered Cap with Downgradient Groundwater Collection Plus Limited Action

Present Worth:	$6,450,000
Capital Cost:	$5,530,000
Annual O&M:	$ 81,300
Time to Implement:	One Year

Alternative 4 consists of constructing an engineered cap consistent with 6NYCRR Part 360 regulations, collecting the downgradient groundwater with a subsurface collection trench, and implementing the limited action items. The engineered cap would consist of the same layers as described in Alternative 3. Collected groundwater would be treated at a newly constructed treatment plant with the plant effluent being discharged to Shaver Creek consistent with a State Pollution Discharge Elimination System (SPDES) discharge permit.

Alternative No. 5 - Engineered Cap with Leachate Extraction Wells Plus Limited Action

Present Worth:	$5,980,000
Capital Cost:	$5,030,000
Annual O&M:	$ 134,000 (first 5 years)
	$ 56,300 (after 5 years)
Time to Implement:	One year

Alternative 5 consists of constructing an engineered cap consistent with 6NYCRR Part 360 regulations, collecting mounded landfill leachate utilizing landfill extraction wells and implementing the limited action items. The engineered cap would consist of the same layers as described in Alternative 3. Landfill leachate collected with the extraction wells would be treated at a newly constructed on-site treatment plant with the plant effluent being discharged to the Oneida River consistent with a SPDES discharge permit.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria, which must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

   Alternatives 1 and 2 would not meet all SCGs. Alternatives 3, 4 and 5 would achieve all SCGs comparably with the exception of groundwater standards. Assuming three (3) flushes of groundwater would be sufficient to restore the impacted aquifer to either groundwater standards or background levels, Alternative 3 would take approximately 72 years, Alternative 4 would take approximately 54 years, and Alternative 5 would take approximately 54 years.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

   Alternative 1, no action, provides very little additional protection over existing conditions. The fence would somewhat limit human exposure to contaminants, but it would not significantly limit wildlife exposure to contaminants. Alternative 2, soil cover, would significantly reduce both human and wildlife exposure to contaminated soils while exposure to leachate seeps may recur. Alternatives 3, 4, and 5 all include a part 360 cap which would significantly reduce both human and wildlife exposure to contaminated soils and leachate. In addition, Alternative 4 includes collection of contaminated groundwater which is the most protective of surface water and groundwater resources. Alternative 5 includes collection of landfill leachate which is more protective of surface water and groundwater resources than Alternative 3, but less protective than Alternative 4.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated.

   Alternative 1 would have essentially no adverse short-term impacts to the community or the environment as a result of construction activities. The construction of a cap in Alternatives 2, 3, 4 and 5 would involve some regrading of on-site materials and the placement of significant quantities of soils. The community may be impacted short-term through the increased dust and noise typically associated with construction and truck traffic, although dust controls are available to minimize dust generation.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 1 would be a reliable, long-term, deterence to trespassers providing the fence and signs are properly maintained. It would not be adequate or reliable long-term to eliminate exposure to leachate seeps or contaminated soils.

Alternative 2 would be reliable in eliminating exposure to contaminated soils but since it would not significantly reduce the generation of leachate, it would not be reliable long-term to eliminate exposure to leachate seeps.

Alternatives 3, 4, and 5 all include a low permeability cap which would be reliable long-term in eliminating exposure to contaminated soils and leachate seeps since each one would significantly reduce the generation of leachate. Alternatives 4 and 5 are slightly more effective in acheiving groundwater standards in the long-term than Alternative 3.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site. None of the alternatives would reduce the volume or toxicity of the hazardous waste within the landfill mass since no "hot spots" or significant sources of contamination were identified in the Remedial Investigation. Alternatives 4 and 5 would utilize treatment to reduce the volume and toxicity of the contaminants present in the groundwater flowing under the site.

   Alternative 1 would not reduce the mobility of the hazardous waste while Alternative 2 would slightly reduce waste mobility. Alternatives 3, 4 and 5 would each significantly reduce the mobility of the hazardous waste through the construction of a low permeability cap over the waste. The cap would substantially limit the amount of precipitation which percolates down through the waste which would practically eliminate the future generation of leachate by the waste.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

   Alternative 1 is the easiest to implement as it only entails fencing with continued monitoring. Alternatives 2 and 3 are the next easiest to implement as they involve use of readily available heavy equipment such as bulldozers, backhoes, and dump trucks. Alternatives 4 and 5, although slightly more difficult to implement than Alternatives 2 and 3, are relatively easy to implement. They would utilize the same heavy equipment as Alternatives 2 and 3 and in addition, would utilize well established water treatment technologies.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The present worth costs for each alternative are presented below:

Alternative	PW Cost
1	$ 570,000
2	$2,230,000
3	$4,930,000
4	$6,450,000
5	$5,980,000

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan were evaluated. A " Responsiveness Summary" was prepared that describes public comments received and how the Department addressed the concerns raised. The Responsiveness Summary is attached as Appendix A.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC has selected Alternative 3 as the remedy for this site with contingencies for evaluation of groundwater and/or landfill gas treatment if necessary based on long-term monitoring results.

This selection is based upon the fact that Alternative 3 will meet the two threshold criteria and provide the best overall balance among the five balancing criteria.

The engineered cap included in Alternative 3 is expected to significantly reduce the concentrations of contaminants previously detected in the on-site groundwater. The groundwater downgradient of the landfill has elevated levels of iron, manganese, and sodium which are not presently impacting surface water quality in the creek or river. Once the cap is constructed, DEC expects groundwater quality to greatly improve. The selected remedy includes a contingency that if, based on long-term monitoring, groundwater quality does not improve, groundwater treatment will be reconsidered. The cap included in Alternative 3 will also include gas venting pipes which will be sampled as part of a long-term monitoring program. The selected remedy includes the contingency that landfill gas treatment will be re-evaluated if gas monitoring indicates that this is necessary.

Alternatives 1 and 2 would not meet all SCGs which eliminates them from further consideration. Alternative 3 is slightly less effective in the long-term than Alternatives 4 and 5 but is also slightly easier to implement than those two alternatives. Alternatives 4 and 5 would achieve more reduction of toxicity and volume of contaminants in groundwater than Alternative 3 but Alternative 3 is less costly than Alternatives 4 and 5.

The estimated present worth cost to implement the remedy is $4,930,000. The cost to construct the remedy is estimated to be $4,290,000 and the estimated average annual operation and maintenance cost for 30 years is $56,300.

The elements of the selected remedy are as follows:

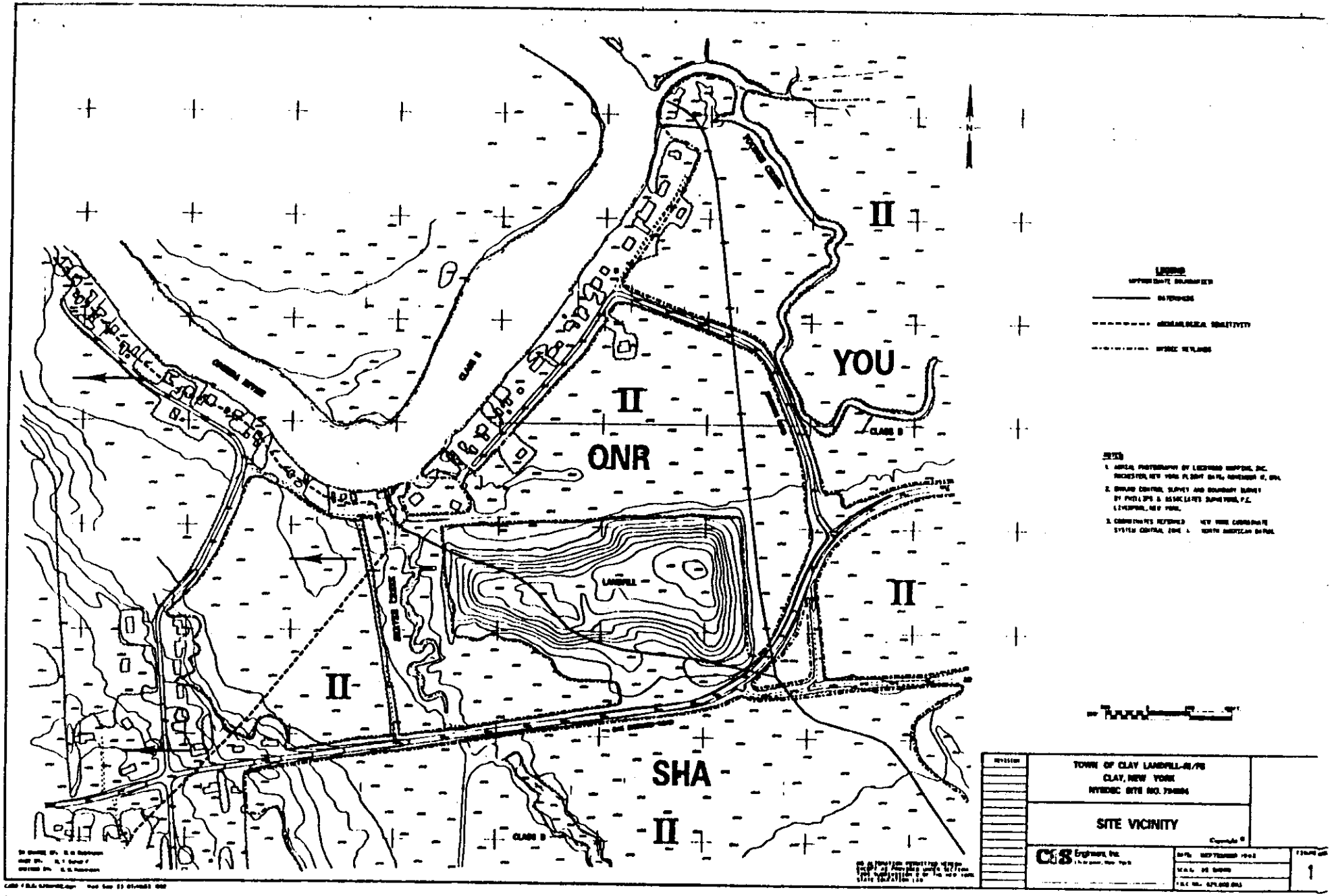
- *An engineered cap consistent with 6 NYCRR Part 360 regulations which would consist of a gas venting layer, a low permeability barrier layer, a barrier protection layer, and a topsoil with vegetative cover layer.*
- *Construction of a perimeter fence around the landfill with warning signs.*
- *Since the remedy results in hazardous waste remaining untreated at the site, a long-term monitoring program will be instituted. This program will allow the effectiveness of the selected remedy to be monitored by sampling and testing groundwater and surface water.*

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

The community participation activities carried out for this site complied with the NYSDEC's statewide citizen participation plan.

The community participation activities included:

- *preparation of a Citizen Participation Plan*
- *mailed notice of public meeting on the Proposed Remedial Action Plan (PRAP)*
- *presentation of PRAP at November 16, 1994 public meeting.*

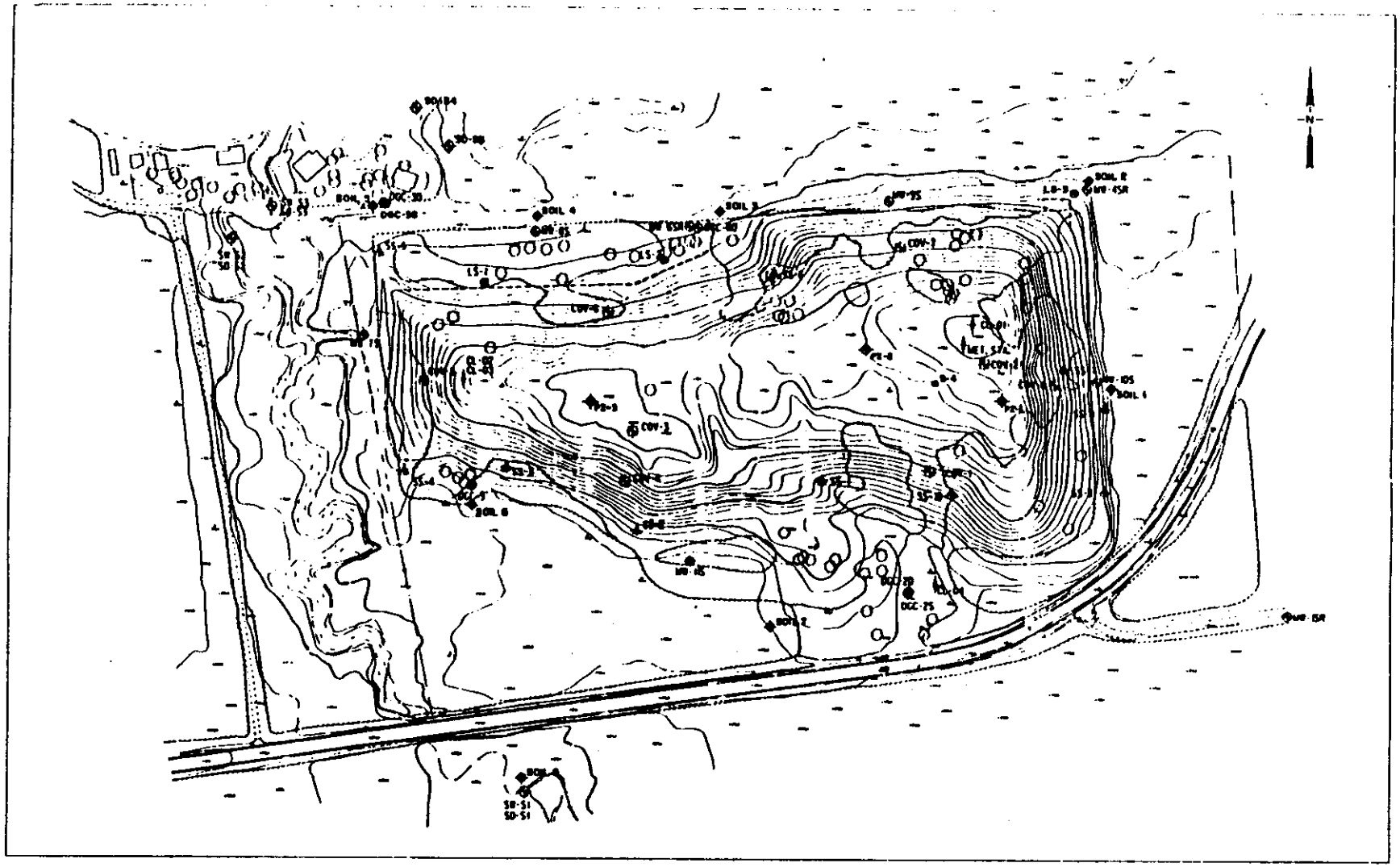


TOWN OF CLAY LANDFILL-#6/#8
CLAY, NEW YORK
NYSDEC SITE NO. 734004

SITE VICINITY

C&S Engineers, Inc.

1



LEGEND

NOTES:

1. AERIAL PHOTOGRAPHY BY LOCKWOOD MAPPING, INC. ROCHESTER, NEW YORK FLIGHT DATE: NOVEMBER 11, 1994.
2. GROUND CONTROL SURVEY AND BOUNDARY SURVEY BY PHILLIPS & ASSOCIATES SURVEYORS, P.C. LIVERPOOL, NEW YORK.
3. COORDINATES REFERRED TO NEW YORK COORDINATE SYSTEM CENTRAL ZONE NEW NORTH AMERICAN DATUM.

TOWN OF CLAY LANDFILL-W/PS
CLAY, NEW YORK
NYSDEC SITE NO. 734004

MONITORING LOCATIONS

C/S Engineers, Inc.

FIGURE 2

TABLE 1

MAXIMUM EXCEEDANCES OF GROUNDWATER STANDARDS

COMPOUND	STANDARD (ug/l)	MAXIMUM EXCEEDENCE ON-SITE (ug/l)	DOWNGRADIENT WELLS 3S, 6S, 8S (ug/l)
Iron	300	58,800	14,300
Manganese	300	2,170	882
Sodium	20,000	459,000	399,000
Chloroethane	5	240	4
Methylene Chloride	5	12	12
Benzene	0.7	32	3
Chlorobenzene	5	320	2
Ethylbenzene	5	19	ND
Xylene (Total)	5	1,200	3
1,4-Dichlorobenzene	4.7	11	ND
1,2-Dichlorobenzene	4.7	5	ND

* ND Means Not Detected

APPENDIX A

RESPONSIVENESS SUMMARY

CLAY LANDFILL SITE NO. 734034

INTRODUCTION

The issues and questions addressed in the following Responsiveness Summary were raised during a public meeting held by the New York State Department of Environmental Conservation (NYSDEC) on November 16, 1994 at the Clay Town Hall. The purpose of the meeting was to discuss the results of the RI/FS and receive comments on DEC's Proposed Remedial Action Plan (PRAP) for the site.

QUESTIONS AND RESPONSES

QUESTION 1: What is the timetable for completion of the remedy?

RESPONSE: Design of the remedy will begin immediately after this ROD is issued and should take about six (6) months. Construction will follow design and should take about 12 months.

QUESTION 2: What are the gases being emitted from the landfill and how toxic are they?

RESPONSE: Besides methane and carbon dioxide which are typical landfill decomposition gases, the predominant compounds contained in the landfill gas are benzene, toluene, ethyl benzene, and xylene (gasoline components) and methylene chloride (a solvent). The State Department of Health (DOH) and the Onondaga County Health Department (OCHD) have both evaluated the air monitoring data gathered at the Clay Landfill and determined that there is no cause for concern from a public health perspective. The OCHD air monitoring report concluded that the compounds detected down-wind of the landfill are not appreciably elevated above background levels and are unlikely to be of any public health significance.

QUESTION 3: Will there be a change in composition of the gases once the landfill cap is on and the gas is vented through pipes?

RESPONSE: The landfill gas presently vents through the existing surface soils to the atmosphere. Once capped, the gases will be venting through one vent pipe per acre which will result in a more concentrated gas being emitted through a much smaller area. Although the gas will be more concentrated, the quantity of gas emitted will be the same as it is presently and will decrease over time. Therefore, the emissions to the ambient air will be less and less as time goes by.

QUESTION 4: Who is responsible for annual maintenance costs?

RESPONSE: The Town of Clay is responsible for annual maintenance costs. These costs are not eligible for State reimbursement from the 1986 Environmental Quality Bond Act however, the Town may pursue the Onondaga County Solid Waste Disposal Authority for the sharing of these costs.

QUESTION 5: What will the State DEC and DOH do with the long-term monitoring data?

RESPONSE: The long-term monitoring data is evaluated by DEC and DOH staff as it is submitted and at a minimum, on an annual basis we determine whether there is any need to modify the monitoring program or, based on trends in the data, re-evaluate any portion of the remedy.

QUESTION 6: Has this remedy actually been applied at another site in the New York State?

RESPONSE: Yes, capping has been used at many landfill sites in the State including the nearby Town of Van Buren landfill and the Town of DeWitt Landfill.

QUESTION 7: What will be the cost to the individual homeowner?

RESPONSE: The Town's share of the remedy will be approximately $1.25 million with the State contributing approximately $3.75 million. The Town has estimated that this will translate into an increase of $0.50 per $1,000 of assessed value in property taxes.

APPENDIX B

ADMINISTRATIVE RECORD

A. Groundwater Contamination Assessment of the Town of Clay Sanitary Landfill, dated December 1986, prepared by Dunn Geoscience Corporation

B. Order on Consent Index # A7-0236-90-06

C. Workplan, Clay Landfill RI/FS, dated September 25, 1991, prepared by C&S Consulting Engineers

D. Clay Landfill Remedial Investigation (RI), dated December 1993, prepared by C&S Consulting Engineers

E. June 6, 1994 letter from Mr. Wayne Robinson (C&S Engineers) to Mr. Ray Fetcho (NYSDEC) addressing modifications to the December 1993 RI Report

F. Clay Landfill Feasibility Study, dated September 1994, prepared by C&S Consulting Engineers

G. Proposed Remedial Action Plan, dated October 1994, prepared by NYSDEC