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Commissioner

PROPOSED REMEDIAL ACTION PLAN

"CHAMPLAIN TOWN LANDFILL"

Town of Champlain, Clinton County, New York
Site No. 510006
April 14, 1995

SECTION 1: **PURPOSE OF THE PROPOSED PLAN**

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) is proposing **No Further Action** for the **Champlain Town Landfill Site**.

This Proposed Remedial Action Plan **(PRAP)** describes the remedial actions now underway at the Champlain Town Landfill and the rationale for selecting No Further Action as the preferred alternative for this site. The remedial actions now underway are 1) a landfill cap and 2) a water system for the impacted and threatened homes. The remedial actions now underway are according to an administrative order on consent between the Town of Champlain, American Home Products Corp. and the Department of Environmental Conservation.

The NYSDEC will select the final remedy for the site only after careful consideration of all comments submitted during the public comment period. The NYSDEC may modify the preferred alternative or select another response action presented in this PRAP and the RI/FS Report based on new information or public comments. Therefore, the public is encouraged to review and comment.

This PRAP is issued by the NYSDEC as an integral component of the citizen participation plan responsibilities provided by the New York State Environmental Conservation Law (ECL) and accompanying implementing regulations (6 NYCRR 375). This document is a summary of the information that can be found in greater detail in the Remedial Investigation (RI) and Feasibility Study (FS) reports on file at the document repositories.

The public is encouraged to review the documents to gain a more comprehensive understanding of the site and the investigations conducted there. The project documents can be reviewed during normal business hours at the following repositories:

Town of Champlain Offices, Champlain, NY
(518) 298-8160

The project documents may also be reviewed at: Attn: Mr. Daniel Steenberge, New York State Department of Environmental Conservation, P.O. Box 296, Ray Brook, NY 12977, telephone (518) 897-1242.

Written comments on the PRAP should be submitted to Mr. Steenberge at the above address.

DATES TO REMEMBER

The **public comment period** on RI/FS Report, PRAP, and preferred alternative is from April 17 to May 17, 1995.

A public meeting to discuss work done to date and receive the public's input is scheduled for 7:00 pm on May 3, 1995 at the Champlain Town Hall on Route 9 in the Town of Champlain.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Champlain Landfill is located on Castine Road in the Town of Champlain, Clinton County, New York (see Figure 1.1). The landfill was owned and operated by the Town of Champlain from approximately 1972 through 1978. The landfill is located on a 36 acre parcel of land owned by the Town of Champlain. The main disposal area is limited to approximately 13 acres in the southwestern portion of the property. The Rouses Point Sportsmans Club owns(ed) 3.4 acres in the center of the landfill that was used as a rifle range. The landfill is located in a populated agricultural area approximately two miles south of the Village of Champlain. The landfill is bounded on the west by an extensive NYSDEC regulated wetland; on the north by wooded areas; on the east by wooded areas and private homes along Ridge Road; and to the south by agricultural land, wooded areas and homes along Castine Road.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The landfill is located in a former gravel pit. Sand and gravel were excavated from the site between July 1960 and July 1966. The Town of Champlain purchased the landfill property on July 29, 1972 and operated the landfill from approximately 1972 through May 1978. Based on sampling conducted in 1986 and information gathered on waste disposal, the NYSDEC listed the site in the New York State Registry of Inactive Hazardous Waste disposal sites as a Class 2 site. The hazardous wastes disposed at the landfill were 1,1,1-trichloroethane, 1,1,2 trichloroethane, and paints and thinners containing acetone, toluene and xylene. These wastes were reportedly disposed in the vicinity of the present location of the Rouses Point Sportsmans club rifle range.

3.2: Remedial History

Contamination was found in homeowner wells; carbon filter treatment systems have been placed in these homes. An ongoing sampling program of the homes in the area has also been established. This sampling program will continue until completion of the water system. Two remedial projects are now in progress. The first project is construction of a water system to service the threatened and impacted homes (Figure 1.1). The second project is the construction of a cap on the landfill to eliminate direct contact and mitigate releases to the environment (Figure 6.1).

3.3: Interim Remedial Measures ("Presumptive Remedies")

The remedial measures now underway are according to an administrative order on consent among the Town of Champlain,

American Home Products Corp. and the Department of Environmental Conservation. Both remedial projects were called interim remedial measures (IRMs) in the order on consent; a landfill cap is also considered a "presumptive remedy". Presumptive remedies are conducted at sites based on information available before the remedial investigation. The Department of Environmental Conservation and the United States Environmental Protection Agency have determined that a cap will be called for at most municipal mixed waste landfills. The decision to provide an alternate water supply was supported by the Department's knowledge of the characteristics of the bedrock aquifer in this area, the distribution and type of contaminants at this site, and the need to provide a source of potable water. These remedial projects are now in the final stages of design and should progress to construction during 1995.

SECTION 4: CURRENT STATUS

American Home Products Corp. implemented a Remedial Investigation/ Feasibility Study (RI/FS) in April 1993 to assess the contamination at the site. In addition, the two remedial projects mentioned above 1) landfill cap and 2) municipal water system are in progress.

4.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of contamination resulting from previous activities at the site. A report entitled **Remedial Investigation Report for the Champlain Landfill, June 1994** has been prepared describing the field activities and findings of the RI in detail. A summary of the RI follows.

The Remedial Investigation consisted of the following:

- A review of existing data in NYSDEC files, a review of historical aerial photographs, and a fracture trace analysis (i.e., a study of the fractures in the bedrock to predict the groundwater flow pattern). Data from previous investigation work was used in and incorporated into the remedial investigation.

- A methane gas survey, magnetometer survey (i.e., similar to a metal detector), and a soil gas survey. The purpose of the methane survey was to determine the areas of greatest methane production. These data are used for design of the venting system that is required in the landfill cap. Magnetometer (i.e., metal detector) and soil gas surveys are used to identify potential highly contaminated areas that may be acting as a continuing source of contaminants for release to the environment.

- Soil borings and monitoring wells were installed to define the geology and hydrology of the site, and to collect groundwater and soil samples for chemical analysis.

- Groundwater, surface water, sediment, soil, soil gas, and leachate were collected for chemical analysis. A total of 23 groundwater samples, seven surface water and sediment samples, and five leachate samples were collected for chemical analysis during the most recent investigation. These data were used to confirm and/or supplement data collected during previous investigation work.

- Five test pits were excavated during a supplemental field investigation to locate isolated disposal areas.

Findings of the Remedial Investigation are as follows:

Nature and Extent of Contamination

- Silt, sand, fill (refuse), and gravel overlay fractured Potsdam sandstone bedrock at the site. The depth of this overburden material varies from 0 feet at the northeast to approximately 40 feet in the landfill area. The depth of the overburden increases from north to south and east to west.

- Groundwater flow in the overburden and shallow bedrock is predominantly westerly and southerly. A groundwater divide exists within the landfill boundary in the deeper bedrock zone. From the divide, groundwater flows southwesterly towards the wetland and southeasterly towards several residential wells.

- The main disposal area of the landfill is approximately 13 acres in the southwestern portion of the property. Two small disposal areas exist in the northeastern corner of the property. Fill material ranges in thickness from five to ten feet in the northern and southern portions and may be up to 15 to 20 feet thick in the center of the landfill.

- The magnetometer (i.e., metal detector) survey did not detect the presence of any area with a potential large accumulation of drums. The methane survey found that concentrations were highest near the center of the landfill and decreased towards the borders. The soil gas survey indicates that the highest concentration area is located near the center of the rifle range. This corresponds well with the historical record on where the hazardous waste liquids were dumped.

- Groundwater at the landfill has been impacted. Thirty-three volatile organic compounds (VOCs) were detected in groundwater samples. The VOC groundwater exceedences consisted principally of petroleum hydrocarbons and were detected primarily in shallow monitoring wells located at the western and northwestern edge of the landfill (Figure 4.12). The typical concentration of the petroleum hydrocarbons (i.e., benzene, toluene and xylene) were in the average range of not detectable to approximately 50 parts per billion. The deeper well in each pair on the western side of the landfill contained significantly lower concentrations of VOCs and no groundwater standard exceedences. Only one VOC (i.e. benzene) exceeded the groundwater standards on the eastern and southern sides of the landfill. Seven semivolatile organic compounds (SVOCs) were detected in the monitoring wells and four were at concentrations exceeding groundwater standards (Figure 4.13). The SVOC exceedences showed a similar pattern to the VOCs. Numerous semivolatile tentatively identified compounds (TICs) were detected in the monitoring wells. TICs included various organic acids, primidone, meprobamate, and phenobarbital. The typical average concentrations of these are in the range of 10 parts per billion to 200 parts per billion. These compounds were detected in higher concentrations on the western and northwestern side of the landfill and in lower concentrations on the eastern and southeastern side.

The groundwater data indicates that contamination on the western side of the landfill is not migrating down to bedrock. Conversely, the groundwater data indicates that contamination on the eastern side of the landfill has migrated into deep bedrock. Several residential wells to the south and southeast are either impacted or threatened. Low parts per billion levels of VOCs have been detected in the residential wells to the east and southeast of the landfill. VOCs have been most often detected in two residences closest to and downgradient of the landfill. VOCs detected in other residences show no consistent pattern or trend. The SVOC, Primidone, is the contaminant most often detected in elevated concentrations in the residential wells. Meprobamate was not detected above the detection limits in the residential wells. The contamination does not extend a great distance from the landfill. Attached are figures 4.12, 4.13, and 4.19 which provide a visual representation of the groundwater and residential well results.

- Leachate is present along the western toe of the landfill in stagnant or very slow moving pools. Fourteen VOCs were detected and six were present in excess of groundwater standards. Seven SVOCs were detected and four of these were in excess of groundwater standards. In addition, semivolatile TICs and metals were detected in the leachate. The TICs included primidone, meprobamate, and phenobarbital.

- Surface water appears to be slightly impacted in localized areas within 150 feet of the western edge of the landfill. No VOCs or SVOCs were detected in the surface water samples. Organic contaminants detected in the surface water were limited to semivolatile TICs. The TICs included primidone, meprobamate, and phenobarbital. Nineteen metals were detected and only iron exceeded the Class D surface water standards.

- Sediment is also slightly impacted in the area within 150 feet of the landfill Five VOCs and one SVOC were detected in the sediments. The SVOC concentration was below applicable health-based guidance values and sediment criteria. The high total organic carbon content of 3.1 to 17.5 percent in the sediments accounts for the lack of significant organics in the surface water samples.

Aquifer Restoration:

The characteristics of the bedrock aquifer and the chemical structures of the contaminants in the plume limit the effectiveness of a pump and treat technology. The large variability in hydraulic conductivity and the low hydraulic gradient in the bedrock result in pump and treat technologies having minimal impact on site conditions. Based on available data, a groundwater extraction system does not appear to be cost effective or practical at this site.

Risk Assessments:

Two risk assessments were completed during the investigation 1) a Baseline Human Health Evaluation (HHE) and 2) Habitat Based Assessment (HBA). The purpose of the human health evaluation was to assess potential risk to human health which may be caused by chemicals emanating from the site in the absence of any actions to control or mitigate their

impact. The habitat based assessment looked at the potential impacts of site-related contaminants on aquatic and wildlife resources.

The human health evaluation (HHE) did not predict any present significant cancer or non-cancer effects for persons living near the landfill. Without a landfill cap and a water system the evaluation predicted slightly elevated long-term non-cancer and cancer risks.

The non-cancer risks are predicted by calculating a hazard index. If this hazard index is greater than 1, it indicates a potential non-cancer hazard. The hazard index for the current residents was 0.1, indicating that exposure of current residents to groundwater in the private wells does not pose a significant health hazard. The hazard index for a hypothetical future resident that lives on top of an unprotected landfill ranges from 7.7 to 11.1. The range exceeds 1, indicating a potential noncarcinogenic hazard in this hypothetical situation.

The USEPA (1989) has established a target risk range for carcinogenic effects of one-in-one million to one-in-ten thousand for Superfund sites. That is, the risks posed by the site should not exceed this target range. If they do, the need for remediation may be indicated. The total risk for the current residents ranged from one-in-one million to five-in-one million. This range falls within the target range noted above. The risks for the current residents were primarily due to the presence of 1,1,2,2-tetrachloroethane and bis(2-ethylhexyl)phthalate in the private well water.

The habitat based assessment (HBA) predicted that none of the detected contaminants would have a significant effect on wildlife exposed to surface water, sediments, or leachate at the site. No contaminants in surface water were determined to present a significant risk to aquatic life.

To assess the potential effects of site-related contaminants detected in physical media at the Champlain Landfill, a Phase I habitat-based assessment (HBA) was conducted. The completed assessment fulfilled the requirements of the NYSDEC (1991) Technical and Administrative Guidance Memorandum (TAGM), Fish and Wildlife Impact Assessment for Inactive Hazardous Waste Sites.

None of the contaminants detected were determined to be of concern to wildlife exposed to surface water, sediments, or leachate at the site. No contaminants in surface water were determined to be of concern to aquatic life.

SECTION 5: ENFORCEMENT STATUS

The NYSDEC, the Town of Champlain and American Home Products Corp. entered into a Consent Order, Index No. A5-0154-88-09 in 1993. The Order obligates the Town to implement a remedial program. This allows the State to reimburse the Town with up to 75 percent of the eligible cost of the remediation. The consent order also obligated the Town to properly close the landfill by placing a cap on the landfill.

The Order obligates American Home Products to build a water system for impacted and threatened homes near the landfill. The order also obligates American Home Products, Inc. to conduct a remedial investigation/feasibility study (RI/FS) and contributes $300,000 toward remediation of the site. Recently, A.M. International, Inc. was obligated by stipulation and consent decree to pay $400,000 to the State to settle its liability in this case. These funds will be used to reduce the project's cost and reduce the State's share.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

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

The analytical data obtained from the RI was compared to the Standards, Criteria, and Guidance in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified are 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. The results of the remedial investigation were compared to the SCGs and potential public health and environmental exposure risks to determine if any areas or media of the site require remediation.

At a minimum, the selected remedy should mitigate significant threats to the public health and 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:

- Control the contamination present within the soils/waste on site.
- 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.
- Mitigate and eliminate the impacts of contaminated groundwater to the environment.
- Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.
- Provide for attainment of SCGs for groundwater quality at the limits of the water district.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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

An alternative including provisions to pump and treat groundwater to restore the aquifer was screened and evaluated as part of the Feasibility Study. This alternative was eliminated from detailed evaluation since the characteristics of the bedrock aquifer limit the effectiveness of a pump and treat technology. The large variability in hydraulic conductivity and the low hydraulic gradient in the bedrock result in pump and treat technologies having minimal impact on site conditions. In addition, the low levels of contamination would cause the rate of remediation to be controlled by diffusion. Also, it must be remembered that public health will be protected by the water system that is to be constructed later this year. Based on available data, a groundwater extraction system does not appear to be cost effective or practical at this site.

The project to cap the landfill will essentially prevent precipitation infiltration

into and leaching through the landfill waste. As a result, the source of groundwater contamination, i.e., leaching, would be eliminated and site groundwater should become clean over time. During this remediation, periodic groundwater sampling and analysis would be conducted to measure how groundwater quality was improving.

Based on the available data, a groundwater extraction system does not appear to be effective. The level of existing groundwater contamination is relatively low and current human risks are within USEPA acceptable limits. The levels of contamination would be expected to decrease after installation of the cap because the fill is above the water table and recharge would be significantly reduced.

7.1: Description of Alternatives

Remedial Alternative #1 - No Action

Every PRAP must include a No Action alternative. The purpose of the No Action alternative is to provide a basis for comparison.

The No Action alternative does not include the projects to cap the landfill or provide a municipal water system. The No Action alternative requires continued monitoring only, allowing the site to remain in an unremediated state. This is an unacceptable alternative since the site would remain in its present condition, and human health and the environment would not be adequately protected.

Present Worth:	$1,100,000
Capital Cost:	0
Annual O&M:	56,000
Time to Implement -	Immediate

Remedial Alternative #2 - Landfill Cap/ Water System (No Further Action)

Landfill Cap, Waste Consolidation/Passive Trench, Venting/Part 360 Cap/Long-Term Groundwater Monitoring:

Present Worth:	$3,430,000
Capital Cost:	2,610,000
Annual O&M:	42,000
Time to Implement -	1 year

Water System - Water Supply System:

Capital Cost:	$1,200,000
Present Worth:	1,200,000
Annual O&M:	9,118
Time to Implement -	1 year

7.2 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 (6 NYCRR Part 375). A brief description of each criteria is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The evaluation criteria are described below:

The first two evaluation criteria are termed threshold criteria and 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.

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.

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. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

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.

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.

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.

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.

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 are evaluated. A "Responsiveness Summary" will be prepared that describes public comments received and how the Department will address the concerns raised. If the final remedy selected differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

A comparative analysis of these alternatives based upon the evaluation criteria noted above follows.

■ Compliance with New York State Standards, Criteria, and Guidance (SCGs).

The New York State Part 360 landfill cap is an action specific SCG for landfill closure. Alternative #2 includes provisions for a landfill cap meeting the Part 360 requirements. The chemical specific SCGs for groundwater are not immediately attainable, however the reduction in leachate production, provided by the landfill cap in Alternative #2 should eventually allow the groundwater to naturally restore itself. Alternative #2 provides for compliance with the chemical specific SCGs for drinking water by providing a water system to nearby users. Site soils, sediments and surface water are not contaminated in excess of SCGs or are at levels comparable to background.

Alternative #1, No Action, would not meet any of the above mentioned SCGs for this site.

■ Protection of Human Health and the Environment

The No Action alternative, Remedial Alternative #1, would be the least protective of human health and the environment since it does not address any of the remedial goals established for this site. Alternative #2 will significantly reduce and potentially eliminate leachate, thereby remediating groundwater by natural attenuation. Alternative #2 provides a water system thereby eliminating risk associated with consumption of contaminated drinking water. Alternative #2 eliminates potential exposure to contaminants from dust, soils or other means of direct contact by installation of the landfill cap.

■ Short-term Effectiveness.

Alternative #1, No Action, does not include any physical construction measures and, therefore, does not represent a risk to the community as a result of its implementation. Alternative #2 involves major construction activities and the use of heavy earth moving equipment. The potential for on-site accidents and worker exposure to contaminated media would increase as the level of construction activity increases. There is a potential for off-site accidents during construction. However, there will be no potential for contaminated media contact in work being done off-site. These risks would be minimized by proper construction techniques and proper health and safety procedures. Potential hazards to the surrounding community would include adverse traffic conditions, airborne dust and particulate emissions and an increase in noise levels.

■ Long-term Effectiveness and Permanence.

Alternative #1, No Action, provides no long-term controls for handling the on-site contamination or the groundwater contamination. Alternative #2 provides a reduction in leachate production, thereby remediating groundwater by natural attenuation. Alternative #2 also provides a long-term dependable source of drinking water. The closure cap is a long term control technology that must be maintained at regular intervals to ensure its integrity.

■ Reduction of Toxicity, Mobility or Volume.

The No Action alternative, Alternative #1, does not contain any remedial measures that would reduce the toxicity, mobility or volume of the contamination. Alternative #2 provides for reduction in the volume of contaminated groundwater by reducing the amount of water infiltrating the landfill. It also reduces the mobility of wastes in the landfill. In addition, the landfill cap will eliminate the leachate seeps. Neither alternative provides any treatment process to reduce the toxicity of the waste present in the landfill.

■ Implementability.

Alternative #1, No Action, would be the easiest of the alternatives to implement since it requires minimal activity. The construction procedures, materials and earth working equipment required for implementation of the water system portion of Alternative #2 are conventional and are used extensively in standard commercial and industrial applications. Construction methods for the landfill cap are somewhat more difficult to implement. However, construction methods for capping are well established. Both alternatives require some degree of institutional management and monitoring and maintenance. Alternative #2 also

includes maintenance of the water system and the landfill cap.

- Cost.

Cost estimates were developed for each of the potential remedial alternatives. The present worth costs were calculated using a 30-year service life and a 3 percent discount rate before taxes and after inflation. The estimated capital, annual operation and maintenance, and present worth costs for each of the alternatives are as follows:

Alternative #1	- No Action
Annual Cost:	$ 56,000
Present Worth:	1,100,000

Alternative #2 -Landfill Cap/Water System	
Capital Cost:	$3,810,000
Annual Cost:	51,118
Present Worth:	4,630,000

- Community Acceptance

Community acceptance of the preferred alternative will be assessed following the review of the public comments on the RI/FS reports and the Proposed Plan.

SECTION 8: SUMMARY OF THE PREFERRED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is proposing Alternative #2 - Landfill Cap/Water system as the remedy for this site. Alternative #2 is equivalent to a **No Further Action"** alternative since both the landfill cap and water system projects are now in progress.

Alternative #1, the no action alternative, was not selected. The no action alternative requires continued monitoring only, allowing the site to remain in an unremediated state. This is an unacceptable alternative as the site would remain in its present condition, and human health and the environment would not be adequately protected.

The elements of the selected remedy consist of as follows:

LANDFILL CAP
Waste Consolidation/Passive Trench Venting/Part 360 Cap/Long-Term Groundwater Monitoring

Present Worth:	$3,430,000
Capital Cost:	2,610,000
Annual O&M:	42,000
Time to Implement -	1 year

This remedial alternative includes:

- Possible consolidation of wastes from the isolated and shallow disposal areas into the main landfill;
- Restoring the waste removal areas through placement and compaction of clean backfill following excavation:
- Installation of a gas venting system;
- Installing a multi-layer cap (per 6 NYCRR Part 360 regulations) and,
- Post closure Monitoring and Cap Maintenance (O&M).

WATER SYSTEM
Water Supply System

Present Worth:	$1,200,000
Capital Cost:	1,200,000
Annual O&M:	9,118
Time to Implement -	1 year

This remedial alternative includes:

- Installation of a water supply system to service residents near the Champlain Town Landfill. The

water district will be connected to the Village of Champlain distribution system by a 2.1 mile water main.

- Operation and Maintenance (O&M) of the water system.