NYSDEC CONTRACT NO. D003826

FINAL
PROJECT MANAGEMENT WORK PLAN

FEASIBILITY STUDY
SOUTH HILL DUMP
CORTLANDVILLE, NEW YORK
SITE NO. 7-12-009

WORK ASSIGNMENT NO. D003826-17

Submitted to:

New York State Department of Environmental Conservation
Albany, New York

Submitted by:

MACTEC Engineering and Consulting
Portland, Maine
Project Number: 3612052032

MAY 2005

NYSDEC CONTRACT NO. D003826

FINAL
PROJECT MANAGEMENT WORK PLAN

FEASIBILITY STUDY
SOUTH HILL DUMP
CORTLANDVILLE, NEW YORK
SITE NO. 7-12-009

WORK ASSIGNMENT NO. D003826-17

Submitted to:

New York State Department of Environmental Conservation
Albany, New York

Submitted by:

MACTEC Engineering and Consulting
Portland, Maine
Project Number: 3612052032

MAY 2005

Submitted by:	Approved by:
_____	_____
Mark J. Stelmack, P.E.	William J. Weber, P.E.
Project Manager	Program Manager

PROJECT MANAGEMENT WORK PLAN
SOUTH HILL DUMP

TABLE OF CONTENTS

1.0 INTRODUCTION

MACTEC Engineering and Consulting, P.C. (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC), is submitting this Project Management Work Plan (Work Plan) to conduct a Feasibility Study (FS) for the South Hill Dump (SHD) site (Site) in Cortlandville, Cortland County, New York. The Site is listed as a Class 2 hazardous waste site, Site No. 7-12-009, in the Registry of Hazardous Waste Sites in New York State. This Work Plan has been prepared in accordance with the NYSDEC requirements in Work Assignment (WA) No. D003826-17 (NYSDEC, 2005), and with the July 1997 Superfund Standby Contract between MACTEC (formerly Harding Lawson Associates) and the NYSDEC.

The FS will be conducted in accordance with the WA, as well as with applicable portions of the following documents:

- United States Environmental Protection Agency (USEPA) Remedial Investigation (RI)/FS guidance (USEPA, 1988);
- USEPA guidance for conducting RI/FS for CERCLA Municipal Landfill Sites (USEPA, 1991);
- NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4025 entitled "Guidelines for Remedial Investigations/Feasibility Studies" (NYSDEC, 1989);
- TAGM #4030 entitled "Selection of Remedial Actions at Inactive Hazardous Waste Sites" (NYSDEC, 1990); and
- NYSDEC Draft DER-10 "Technical Guidance for Site Investigation and Remediation" (NYSDEC, 2002).

A RI was previously completed for the Site. The approach to the FS described in this Work Plan integrates conclusions from the RI report (NYSDEC, 2003) with the screening and evaluation of proposed remedial alternatives. This Work Plan presents a technical scope of work for completing FS activities and preparing the FS report.

During the proposed FS activities, remedial objectives will be developed and potential remedial alternatives will be evaluated from engineering, environmental, public health, and economic perspectives; a preferred alternative will be offered.

This Work Plan is organized into three sections.

- Section 1.0 - Introduction.

- Section 2.0 – Site Background and Physical Setting: A review of existing site information, including a conceptual model of the Site.
- Section 3.0 – Scope of Work: Work to be performed to complete the WA.
- Section 4.0 – Staffing Plan
- Section 5.0 – Project Schedule.

2.0 SITE BACKGROUND AND PHYSICAL SETTING

Information pertaining to the history of site operations and past releases of contamination provided by NYSDEC as an attachment to the WA and included in the RI report, is summarized below.

2.1 SITE LOCATION

The South Hill Dump, Site ID No. 7-12-009, is located in the Town of Cortlandville, Cortland County. The surrounding area use is rural/agricultural. The Site is located approximately two miles south of the Village of McGraw, on the south side of South Hill Road. Relatively isolated, the closest residence to the Site is a quarter mile away. Situated on a moderate to steeply sloping hillside, the parcel generally consists of three tiers and occupies approximately 6 acres. Steep, unstable embankments exist at each tier, with a variety of wastes protruding from the slopes. At the toe of the landfill, a small intermittent stream exists. The stream is a tributary to the Tioughnioga River.

2.2 SITE HISTORY

The Site was operated as a municipal disposal facility by the Town of Cortlandville from the early 1960s until 1972, although it is reported that local residents used the site for trash disposal as early as 1949. During its years of operation, wastes were received from the Village of McGraw and the Towns of Cortlandville and Solon, as well as local industry. Access to the Site was reportedly unrestricted. It has also been reported that waste was often permitted to burn during the landfills' operation, and that one time a waste oil pit may have existed. Operations are reported to have involved pushing waste over the working face of the landfill with some spreading and compaction. Cover material was reportedly spread one or more times per week. Presently, waste can be observed protruding from the surface of the landfill across much of the site. Wastes include road construction debris, brush, stumps, tires, white metal, automobile parts, and miscellaneous industrial waste materials. Numerous decomposed drums can also be observed across many areas of the landfill. The landfill is presently heavily overgrown with brush and trees.

2.3 PREVIOUS SITE INVESTIGATIONS

In 1990, the NYSDEC conducted a site inspection and collected soil and leachate samples. Analysis revealed the presence of solvents and pesticides. Based on this data, the observed condition of the landfill (leachate seeps, numerous drum carcasses, etc.) and reported disposal history, the Site was proposed for listing on the New York State

Registry in February 1991 and assigned a Class 2 designation. Class 2 sites are defined as those which pose a "significant threat to the public health or environment". Also, in response to site findings, the NYSDEC planned an interim removal measure (IRM) drum removal program. The purpose of the program was to characterize the contents of the drums observed to contain product, and properly dispose of these drums. In March 1991, five drums of hazardous waste were removed from the site. Analysis revealed that the drums contained trichloroethene. The waste was disposed at Frontier Chemical in Niagara Falls, New York.

In 1991 and 1992, the Cortland County Planning Department (CCPD) collected several surface water samples at the Site. The samples were collected from the intermittent stream at the toe of the landfill. Analytical data revealed elevated concentrations of the solvents trichloroethene and dichloroethene. In the 1991 sampling event, a concentration of 200 parts per billion (ppb) of each of these compounds was detected (NYSDEC, 2003).

In 1994, the NYSDEC collected two surface water samples, three sediment samples and three soil samples from the site. Data revealed the presence of trichloroethene and dichloroethene in surface water at levels slightly above the NYSDEC Guidance Values. These two samples were collected in immediate proximity to the CCPD sample locations. One sediment sample contained a relatively low concentration (9 ppb) of trichloroethene. A low concentration of PCBs (79 ppb) was also detected in one sediment sample. The sediment sample results revealed slightly elevated concentrations of several metals including copper, mercury, nickel, and zinc. Analysis of the soil samples revealed low concentrations of trichloroethene, PCBs, cadmium, copper, and polyaromatic hydrocarbons.

Based upon the findings of the sampling programs, further investigation was deemed appropriate. The consistent presence of trichloroethene in separate sampling events, coupled with the presence of low levels of other contaminants including PCBs, suggests the presence of a contaminant source(s) within the landfill. Potential sources include visible and buried drums, and the reported former waste oil pit. Prior to conducting a RI, the NYSDEC conducted a search for potentially responsible parties (PRPs) to fund the investigation. It was determined that the Town of Cortlandville operated the landfill on a very informal basis, keeping no records as to who used the Site and what they disposed. Even when commercial entities used the site, no contracts were required and records were not maintained. A historical search was further complicated by the fact that the Town Supervisor and Highway Superintendent primarily responsible for operating the site are deceased.

Rosen Brothers, a nearby junkyard whose site is the subject of a federal CERLCA action and is on the State Registry, is believed to have disposed waste at the Site. Rosen Brothers has filed for Chapter 7 bankruptcy. Two other PRPs, Smith Corona and Overhead Door, were served with information requests; both of their responses indicated

a lack of records due to the lapse of time. Because the Town of Cortlandville was believed to have limited financial resources, the NYSDEC opted to conduct a RI/FS using funds from the 1986 Environmental Quality Bond Act. PRPs may be pursued in the future, if information connecting them to the site is discovered. RI field activities were subsequently planned. A work plan was developed in 1996 and fieldwork was initiated in January of 1997 and completed later the same year. The RI was conducted by Parson Engineering Science, Inc., of Liverpool, New York, under contract to the NYSDEC.

During the RI, an estimated 660 gallons of liquid was pumped from test pit TP-40 as an interim remedial measure (IRM). TP-40 is located at the Site's eastern edge near the area where five drums of waste containing trichloroethene were removed in 1991. Laboratory analysis revealed that the liquid contained dichloroethene, trichloroethene, acetone, and vinyl chloride. A seep emanating from this same area and containing many of the same compounds was noted during the RI subsequent to the liquids removal, suggesting that additional residual contamination remains. Conclusions in the RI report included a recommendation that a FS be conducted due to the following reported concerns:

- Unregulated historic landfill operation
- Observation of existing waste protruding from the ground surface
- Reported contamination in site soil, surface water, sediment, and groundwater
- Unfavorable geologic conditions, particularly the shallow depth to fractured bedrock
- Likely existence of additional drums within the landfill; the drums may be acting as a continuing source of contamination, creating potential for offsite migration via surface water or groundwater.

Site groundwater monitoring wells were sampled again in 2001. Analytical results indicate sustained volatile organic compound (VOC) concentrations in overburden and bedrock wells at one location adjacent to the landfill.

Site Walkover. On April 28, 2005 a representative from MACTEC (Ryan Belcher) and representatives from the NYSDEC (James Drumm, James Quinn) conducted a walkover of the Site to view the landfill and to discuss appropriate potential remedial actions. MACTEC documented the walkover with photographs of the Site.

2.4 TECHNICAL OBJECTIVES

The goals and objectives for the FS include the following:

- Review and evaluate the existing information available for the site.
- Assess discussions of potential and current human exposure and potential and current impacts to wildlife, wetland, and surface water biota as presented in the RI report.
- Conduct a FS to address discrete contaminant sources identified during the RI; the "No Further Action" alternative will be considered
- If requested by the NYSDEC, inform the public of FS activities and their results, responding to concerns as required and appropriate under 6NYCRR Part 375, New York State Regulations for Inactive Hazardous Waste Sites.

The completed FS Report will support the NYSDEC's selection of a remedy for the South Hill Dump Site in accordance with 6NYCRR Part 375, and consistent with the most recent National Oil and Hazardous Substances Contingency Plan (NCP).

3.0 SCOPE OF WORK

The Site is located in a relatively isolated, rural area; the nearest residence is about a quarter mile away. The RI report concluded that possible sources of chlorinated solvents, cadmium, copper, pesticide, PCBs and VOCs exist within the landfill.

Contaminants of Concern. Site contaminants of concern (COCs) and Standards, Criteria, and Guidance (SGC) were identified during the RI. A contaminant is considered a COC if an exceedance of applicable SGCs is observed. Exceedances of SGCs were observed in soil, groundwater, surface water, and sediment samples.

Human Health Evaluation. As reported in the RI, an individual can be affected by contamination at the Site only if the exposure pathway, or the route by which an individual comes into contaminant contact, is complete. The RI report identified potentially complete exposure pathways (onsite trespassers or potential future workers) for soil, surface water, and sediment. The RI report stated that because there are no identified downgradient groundwater users, the groundwater pathway is not complete.

The RI report concluded that, in general, potential for human exposure to contaminants in groundwater, soil, surface water, and sediment is limited to the site itself.

Fish and Wildlife Impact Analysis. The RI report identified complete exposure pathways to ecological receptors for surface soil and groundwater (leachate), and potentially complete exposure pathways for surface water and sediment. Exposure pathways were determined to be generally limited to the site itself.

Existing RI data and other pertinent historical data will be assembled during Task 1; the estimated scope of work, preliminary and final budget, schedule, and other work assignment details will be agreed upon. Review of the RI data prepared by others is necessary to evaluate: 1) vertical and areal extent of groundwater contamination; 2) extent of the source(s) of contamination; and 3) contaminant migration paths and identification of actual or potential receptors.

3.1 TASK 1 –WORK PLAN AND BUDGET DEVELOPMENT

Task 1 includes review of existing Site information including the RI report, a site visit with the NYSDEC, and a scoping session with the NYSDEC.

3.2 TASK 2 – PRELIMINARY FS REPORT

This Task includes the preparation of the supporting documentation to be used for development of Tasks 3 and 4 of this WA. The documentation will be drawn exclusively from data contained in the RI report. Nature of site contamination, vertical and areal extent of contamination by media, extent of contaminant source areas, migration paths, actual or potential contaminant receptors, and remedial objectives based on the RI human health and fish and wildlife impact analysis will be prepared.

As discussed with the NYSDEC, evaluations of groundwater remediation alternatives in the FS will be restricted to onsite groundwater. The NYSDEC acknowledges that groundwater contamination has been documented in onsite monitoring wells located adjacent to the site property boundary and therefore it is likely that offsite contaminant migration has occurred. Recognizing that offsite migration is likely of relatively low concentration and that there are no identified groundwater receptors due to the isolated site location, the FS will concentrate on evaluation of onsite remedial actions which would result in a decline in contaminant levels in groundwater that can be verified in onsite groundwater monitoring wells as part of the eventual selected remedy.

The FS report will be prepared based on the available information from the RI. Where information is considered to be incomplete, reasonable engineering and scientific assumptions will be made and documented for FS purposes. At a minimum, assumptions concerning the limits of waste and site-specific hydrogeologic properties are anticipated. Pre-design investigations may be proposed as components of remediation alternatives to address any data gaps identified. The FS report will rely heavily on tabular presentations of material, including description of areas of concern and remedial alternatives evaluation.

3.3 TASK 3 – DEVELOPMENT OF ALTERNATIVES

Task 3 will include the identification of potential remediation technologies and process options for addressing contamination at the site. The applicable media and extent of contamination to be addressed will be based upon the RI data. The development of alternatives under this task will follow *USEPA's Guidance for Conducting RI/FS under CERCLA*. Innovative technologies will be evaluated and proposed to the extent practicable. Technologies will then be assembled into remedial alternatives.

Remediation technologies to be evaluated in the FS will be restricted to the following remedial actions which, in MACTEC's opinion, are deemed to be appropriate and reasonable for current conditions at the Site:

Source Control Remedial Technologies: Landfill capping, waste excavation, waste consolidation, and hot spot removal/disposal.

Groundwater/Leachate Seep Remedial Technologies: Leachate seep collection/treatment/disposal, monitored natural attenuation, and long-term groundwater monitoring,

Sediment/Surface Water Remedial Technologies: Limited sediment excavation.

No direct surface water remediation technologies will be developed; it is assumed the implementation of the selected remedy featuring a combination of source control, groundwater/leachate seep, and sediment remediation technologies will address surface water contaminant concerns.

The FS will develop and evaluate alternatives related to the various contaminant media and source area types according to the *USEPA's Guidance for Conducting RI/FS for CERCLA Municipal Landfill Sites*.

The "No Further Action" Alternative will be considered as one of the potential alternatives for each contaminant media/source area, on the basis that it may be appropriate to address one or more discrete contaminant sources.

3.4 TASK 4 – PRELIMINARY SCREENING OF ALTERNATIVES

This task will consist of the following subtasks:

- Alternatives Screening
- Progress Meeting in Albany
- Public Meeting (optional)

The Remedial Alternatives assembled under Task 3 will be screened against the general criteria of effectiveness and implementability according to TAGM HWR-90-4030, "Selection of Remedial Actions at Inactive Hazardous Waste Sites". Additional information, including the acquisition of field data, if any, required to complete the evaluation will be identified as part of Task 4.

Following substantial completion of this task, a progress meeting with the NYSDEC would be scheduled and conducted to discuss and agree upon any proposed further investigations and the retained remedial alternatives.

Task 4 will also consist of providing technical support to the NYSDEC in preparing for a public informational meeting, if requested by the NYSDEC.

3.5 TASK 5 – DETAILED ANALYSIS OF ALTERNATIVES

Each of the alternatives retained following the preliminary screening conducted under Task 4 will be further developed. Each of the developed alternatives will be screened in detail against the threshold criteria of *Overall Protection of Human Health and the Environment* and *Compliance with Applicable or Relevant and Appropriate Requirements (ARARS) and New York Standards, Criteria, and Guidance (SCGs),* followed by the balancing criteria of *Short-term Impacts and Effectiveness, Long-term Effectiveness and Permanence, Reduction of Toxicity, Mobility, and Volume through Treatment, Implementability,* and *Cost.*

TAGM 4030 and the CERCLA RI/FS guidance will referenced for the specific factors to be considered within each of the criterion. Comparative analysis of the remedial alternatives in reference to the criterion will consist of a narrative analysis. Step III of the Fish and Wildlife Impact Analysis will be followed to provide an ecological assessment of each alternative as a component of the *Overall Protection of Human Health and the Environment* criteria.

Task 5 will conclude with MACTEC's submittal of the completed FS report to the NYSDEC. A proposed outline of the FS report is included in Appendix A.

3.6 TASK 6 – SELECTION OF REMEDY

Following completion of the FS report, MACTEC will submit a preferred remedy recommendation to the NYSDEC in the form of a transmittal letter. The recommendation will consider restoring the Site to pre-release conditions (to the extent practical), and eliminating or mitigating significant threats to public health and the environment posed by the contaminants identified during the RI. Scientific and engineering principles will be applied to determine the most appropriate remedy for the Site, with the goal of protecting public health and the environment and complying with the state SCGs.

Task 6 will also consist of providing support to NYSDEC during the Public Comment Period. This support may consist, but not be limited to, providing review of NYSDEC-generated documents such as fact sheets, the Proposed Remedial Action Plan (PRAP), the Responsiveness Summary, and the Record of Decision, and attending a public meeting to assist in presenting the PRAP.

3.7 TASK 7 – CITIZEN PARTICIPATION

Task 7 consists of providing support to the NYSDEC in the event that NYSDEC conducts a public informational meeting to announce the start of the FS and present the work plan. Items included under this task may include providing a fact sheet to be distributed to persons and agencies on the site contact list.

3.8 TASK 8 – PROJECT MEETINGS/RECORDS

Task 8 includes organizing and running meetings, producing meeting minutes, and maintaining project records, including document repositories.

4.0 STAFFING PLAN

MACTEC's staffing plan, including principal functions and responsibilities, is described below.

Program Manager – William Weber, P.E. Mr. Weber has overall responsibility for organizing and setting program operating procedures with the NYSDEC, and confirming that work assignments are implemented in accordance with contract requirements.

Project Manager – Mark Stelmack, P.E. Mr. Stelmack will be the primary contact with Mr. James Drumm, the NYSDEC Project Manager. He will be responsible for managing execution of the work, and for budgeting and scheduling issues.

Technical Reviewer – Stuart Pearson, P.E. Mr. Pearson will be the senior technical reviewer of the FS report. He will be responsible for ensuring an appropriate mix of proposed remedial alternatives, while considering the nature of Site contamination and corresponding threat to public health and the environment.

Project Engineer – Ryan Belcher. Mr. Belcher will be responsible for developing and evaluating the proposed remedial alternatives, including a determination of the alternatives' cost and effectiveness in meeting the project's remedial action objectives.

Contract Specialist – Theresa Casavant. Ms. Casavant will prepare the monthly cost control reports and M/WBE reports.

Sr. Project Assistant – Erva Gardner. Ms. Gardner will participate in budget tracking, management of files, data management, and report production.

5.0 PROJECT SCHEDULE

As requested by the NYDEC, this WA will be completed within fourteen (14) calendar months of the WA issuance date of March 28, 2005. The WA will be completed on or before March 31, 2006 according to the milestones described below.

Major Task	Description	Estimated Completion Date
Task 1	Work Plan and Budget Development	May 31, 2005
Task 2	Preliminary FS Report	August 31, 2005
Task 3	Development of Alternatives	September 3, 2005
Task 4	Preliminary Screening of Alternatives	October 31, 2005
Task 5	Detailed Analysis of Alternatives	January 31, 2006
Task 6	Selection of Remedy	March 31, 2006
Task 7	Citizen Participation	Work Assignment Duration
Task 8	Project Meetings/Records	Work Assignment Duration

REFERENCES

New York State Department of Environmental Conservation (NYSDEC), 2005. Superfund Standby Contract, Work Assignment # D003826-17, South Hill Dump, Cortlandville, Site 07-12-009, March 28, 2005.

New York State Department of Environmental Conservation (NYSDEC), 2003. "Remedial Investigation Report for the South Hill Dump Inactive Hazardous Waste Disposal Site"; Division of Environmental Remediation. July.

New York State Department of Environmental Conservation (NYSDEC), 2002. Draft DER-10, Technical Guidance for Site Investigation and Remediation. December.

New York State Department of Environmental Conservation (NYSDEC), 1990. Technical and Administrative Guidance Memorandum 4030: Selection of Remedial Actions at Inactive Hazardous Waste Sites. May.

New York State Department of Environmental Conservation (NYSDEC), 1989. Technical and Administrative Guidance Memorandum HWR 89-4025: Guidelines for Remedial Investigations / Feasibility Studies. March.

United States Environmental Protection Agency (USEPA), 1991. "Guidance for Conducting Remedial Investigations and Feasibility Studies for CERCLA Municipal Landfill Sites; EPA/540/P-91/001; February.

United States Environmental Protection Agency (USEPA), 1988. "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (Interim Final); EPA/540/G-89/004; October.

LIST OF ACRONYMS

ARARs	applicable or relevant and appropriate requirements
CCPD	Cortland County Planning Department
FS	Feasibility Study
HLA	Harding Lawson Associates
IRM	Interim Remedial Measure
NCP	National Contingency Plan
NYSDEC	New York State Department of Environmental Conservation
PWP	Project Work Plan
ppb	parts per billion
PRAP	Proposed Remedial Action Plan
PRP	potentially responsible party
RI	Remedial Investigation
SCGs	standards, criteria and guidance values
SHD	South Hill Dump
Site	South Hill Dump site
TAGM	Technical and Administrative Guidance Memorandum
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WA	Work Assignment
Work Plan	Project Management Work Plan

APPENDIX A

FS REPORT OUTLINE

APPENDIX B

COST TABLES