



engineering and constructing a better tomorrow

August 31, 2011

Dr. Jin Park

RealCo, Inc.

P.O. Box 1932

Windmere, FL 34786-1932

SUBJECT: Field Activities Plan
AL Tech Specialty Steel: NYSDEC Site # 401003
Interim Remedial Measure Addressing PCB Contaminants in South Lagoon
Landfill Cap Repairs and Maintenance in Waste Management Area
MACTEC Engineering and Consulting, Inc. Project No. 3612112193

Dear Dr. Park:

MACTEC Engineering and Consulting, Inc. (MACTEC) has developed this Field Activities Plan (FAP) to establish the scope of work for the Interim Remedial Measure (IRM) that will address polychlorinated biphenyl (PCB) contaminants within the South Lagoon, and landfill cap repairs at the Waste Management Area (WMA). At the request of the New York state Department of Environmental Conservation (NYSDEC), MACTEC has contracted with RealCo, Inc. (RealCo) to complete these activities.

The South Lagoon and the WMA are structures located at the AL Tech Specialty Steel Watervliet, New York (AL Tech) facility (Site). The Site location is shown in Figure 1. This FAP presents the scope of work to be completed as part of the South Lagoon IRM and the WMA cap repairs and identifies the scope of services that MACTEC will provide. The South Lagoon IRM and the WMA Cap repairs scopes of work are separate and pricing will be solicited, evaluated, and procured from Subcontractors for each. MACTEC will manage and plan the project tasks, oversee field work, and document work performed including the excavation and disposal of materials, environmental documentation sampling, and site restoration, as applicable.

SOUTH LAGOON

Background

The area of concern includes a small (approximately 20 foot wide by 40 foot long by 5 foot deep) steel-walled structure located in the southeast corner of the AL Tech main plant area. Previous Site documents refer to this structure as the South Lagoon. Figure 2 shows a plan view of the South Lagoon along the eastern property line of the Main Plant Area. The South Lagoon reportedly served as a storm water collection vault providing equalization for oil water separation using two oil skimming pumps and an oil collection tank. It was abandoned in place in September of 1990. The Site is no longer operating and there is no production water present in the lagoon. Some standing rain water was observed in what is considered the collection vault during the focused remedial investigation of April 2007. Vegetation such as small trees, brush, and weeds surround the lagoon.

In 2007, a Focused Remedial Investigation (FRI) conducted by MACTEC included sampling of sediment from the bottom of the structure (via hand methods). PCBs were detected in sediment at levels as high as 1584 parts per million (ppm). These results exceed Remedial Program Soil Cleanup Objectives established in Title Six of the New York Codes, Rules, and Regulations Subpart 375-6, which range from 1 ppm to 25 ppm depending on future land use. PCBs also exceed the criteria (50 ppm) established in the federal Toxic Substances Control Act.

Soil samples were also collected during the FRI using direct push technology exterior to the South Lagoon structure walls. PCBs were not detected at concentrations above 1 ppm, suggesting that the integrity of the lagoon has not been compromised. The depth limits of PCB impact have not been determined within the lagoon. Native clay has been characterized in explorations outside of the structure and may form a natural barrier to vertical migration of the PCBs.

The NYSDEC has directed that an IRM to remove the structure and interior sediment is an appropriate action to mitigate potential incidental exposure to elevated PCBs present within the lagoon structure.

Scope of Work

MACTEC will select a Subcontractor via competitive bid process. MACTEC will solicit and evaluate bids and select a Subcontractor based on our evaluation of technical ability, price, responsiveness, and schedule. The process will comply with New York State Subcontractor Procurement Guidelines.

The Subcontractor will excavate the South Lagoon structure and contents. The objective will be to remove soil and sediment from within the structure to a depth of a foot below a current floor (if present) or to two feet into underlying native clayey soils (if no structure floor is found), as identified during the excavation based on direct observations.

The volume of contaminated soil for removal/disposal is estimated to be up to 150 cubic yards (225 tons). The excavated material will be placed on a tarp(s) in a designated bermed stockpile area located in a paved area of the site where it will also be covered. The Subcontractor may propose to place the material directly into containers staged at the Site.

The Subcontractor will perform all characterization sampling needed to transport and dispose of removed materials at an acceptable waste facility. MACTEC will require the Subcontractor to identify the receiving facility during the bid process and will determine that the proposed facility is acceptable to NYSDEC prior to transport. As generator, the NYSDEC or its designated representative (MACTEC) will sign waste transport manifests.

Additional details of the proposed field activities to be completed at the South Lagoon are presented in Table 1.

MACTEC will provide remedial oversight and technical support to the subcontractor during the IRM. MACTEC will collect documentation samples from the sidewalls and bottom of the excavation to document conditions at the limits of excavation. The Subcontractor shall backfill the excavation with clean soil fill, compact, and grade the excavated area after the completion of the post-IRM sampling.

Work will be performed in accordance with applicable federal, state, and local laws, regulations, and permits. Additionally, work activities will be conducted in accordance with Subcontractor's Site-specific Health and Safety Plan.

The following additional requirements are included in the scope of work as part of the IRM.

- The Subcontractor will be responsible for obtaining all permits (if any) for completing the IRM.
- Erosion control measures (e.g., siltation fencing and hay bales) will be installed and maintained around the excavation as necessary (due to the nature of the site, any erosion control measures should be minimal).
- Temporary fencing and signage will be installed around the work area as necessary to restrict unauthorized personnel from entering the area.
- Work zones will be established including Exclusion Zones, and Support Zones with appropriate decontamination pads and equipment.
- Shoring and/or bracing of the excavation, or sloping of the excavation sidewalls will be conducted, if necessary, to provide a safe and accessible excavation in accordance with OSHA and NYSDEC requirements.
- During the excavation, Subcontractor may encounter groundwater seepage within the limits of the excavation. The Subcontractor will containerize water, as necessary, to achieve the excavation limits directed by MACTEC. The Subcontractor will characterize and dispose of any containerized water at a waste facility acceptable to the NYSDEC.

MACTEC will provide remedial oversight and technical support to the subcontractor during site work. MACTEC will collect samples from the sidewalls (four) and bottom (four) of the excavation to document remaining conditions after removal of the structure and its contents prior to backfilling to grade. Samples will be analyzed by a NYSDEC-approved laboratory for PCBs. MACTEC will review the data and produce a Data Usability Summary Report in accordance with NYSDEC guidance.

Deliverable

MACTEC will prepare and submit a Construction Completion Report (CCR) to document the South Lagoon IRM. This report will include a summary of the remediation performed, waste disposal information, photographs of the project progress, and analytical results to document post remedial conditions. The CCR will be submitted to RealCo with a copy to NYSDEC for the Site record.

LANDFILL CAP REPAIRS AND MAINTENANCE – WMA

Background

Periodic inspections of the landfill at the AL Tech Specialty Steel WMA have identified various maintenance items that require repair and/or maintenance. MACTEC documented these in a Site Management Report for the NYSDEC that included a landfill inspection conducted in December 2010 (MACTEC, 2011).

Based on the Site Management Report, NYSDEC and MACTEC conducted a walkover on April 6, 2011 to confirm the items requiring repair and provide the information needed to develop a scope of work and cost estimate to remedy the observed issues. The NYSDEC has confirmed the list of repair items and the scope of work described for each one (below).

The general locations of each item are shown on Figure 3 (attached). Additional detail is provided in Table 2 (attached). MACTEC will solicit and recommend a contractor to execute the repair and maintenance activities and provide oversight and technical support to the subcontractor during site work.

Scope of Work

MACTEC will select a Subcontractor via competitive bid process. Prior to selection we will hold a pre-bid Site walkover with interested firms. MACTEC will evaluate bids based on our review of technical ability, price, responsiveness, and schedule. Once a subcontractor has been selected, MACTEC will manage and oversee the completion of the project.

The Subcontractor will perform the following activities as detailed in Table 2:

- Item 1 – Repair unstable slope and remove unconsolidated debris Near Monitoring Well Location WW-26,
- Item 2 – Repair eroded metal culvert end,
- Item 3 – Repair eroded drainage channel below storm water detention basin,
- Item 5 – Repair eroded topsoil along landfill weep drain,

- Item 6 – Repair eroded drainage channel at South perimeter fence,
- Item 7 – Repair damage gabion mattresses,
- Item 8 – Repair eroded drainage down-chute,
- Item 9 – Repair an eroded cover soil area on northeast side of landfill,
- Items 10a, b, c, d – Repair perimeter fencing

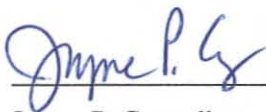
Deliverables

MACTEC will prepare and submit a CCR to document the construction activities. This report will include a summary of the activities performed, change orders submitted and photographs of the project progress and final remedy. This report will be submitted to RealCo with a copy to NYSDEC for the site record.

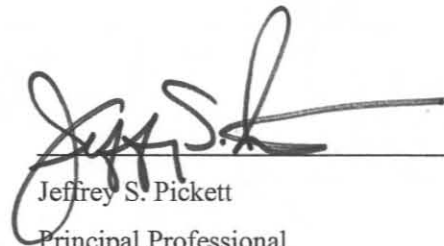
MACTEC appreciates the opportunity to work with RealCo and looks forward to accomplishing this work. If you have any questions or require additional information, please contact me at 207-828-3381 or Jayme Connolly at 207-828-3455.

Sincerely,

MACTEC Engineering and Consulting, Inc.



Jayme P. Connolly
Project Manager



Jeffrey S. Pickett
Principal Professional

ATTACHMENTS:

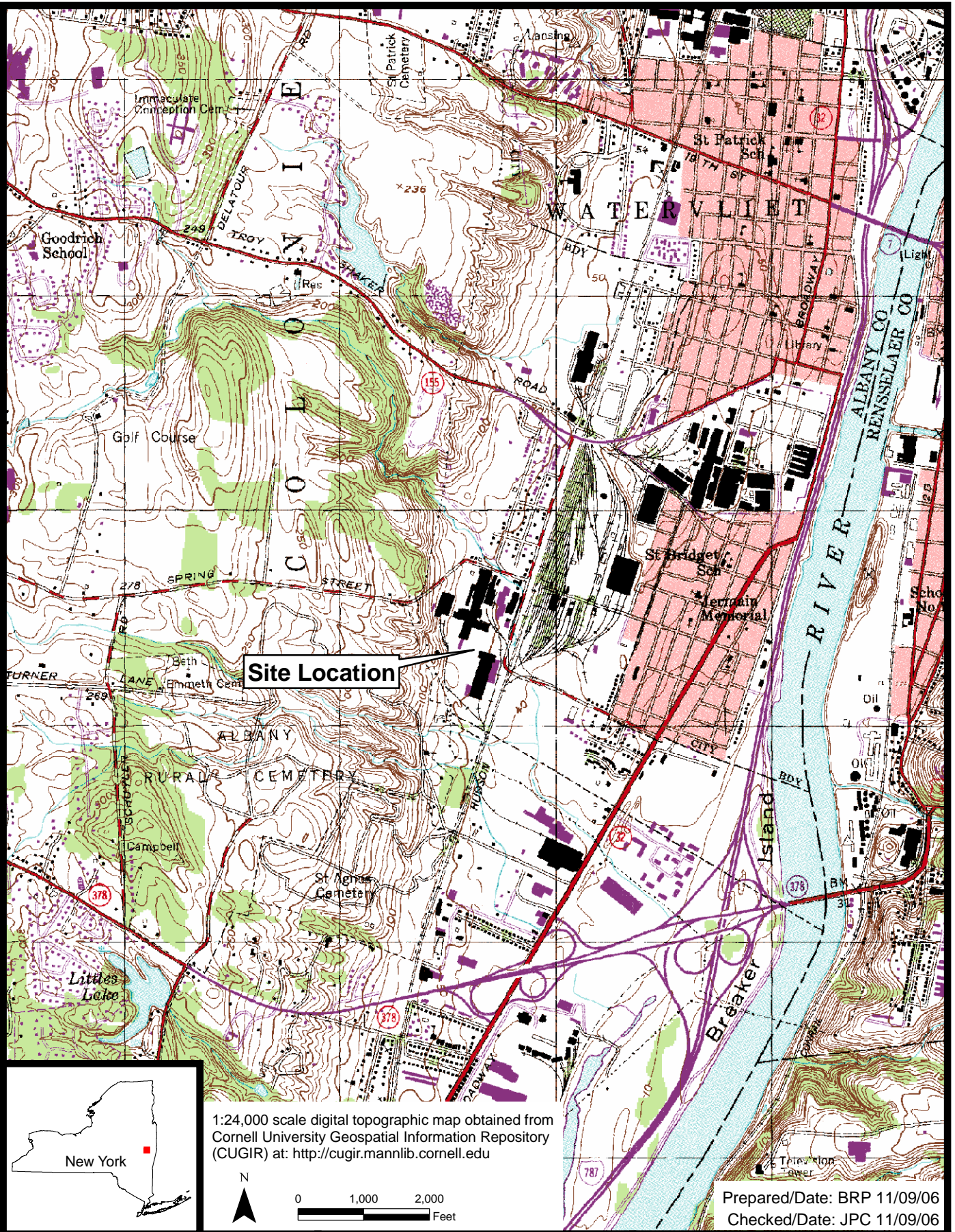
- Figure 1 Site Location Map
- Figure 2 Proposed Locations – South Lagoon Area
- Figure 3 Waste Management Area – WMA-2011 Work Scope
- Table 1 Proposed Field Tasks and Methodology – South Lagoon
- Table 2 Proposed Field Tasks and Methodology – Waste Management Area

REFERENCES

MACTEC Engineering and Consulting, P.C., 2011. Site Management Report – August-December 2010, AL Tech Specialty Steel WMA. Site 401003, Colonie, NY. Prepared for the New York State Department of Environmental Conservation, Albany, New York. March 2011.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AL Tech	AL Tech Specialty Steel
CCR	Construction Completion Report
FAP	Field Activities Plant
FRI	Focused Remedial Investigation
IRM	Interim Remedial Measure
MACTEC	MACTEC Engineering and Consulting, P.C.
NYSDEC	New York State Department of Environmental Conservation
PCBs	polychlorinated biphenyls
ppm	parts per million
RealCo	RealCo, Inc.
Site	AL Tech Specialty Steel site
WMA	Waste Management Area



NYSDEC
AI Tech Specialty Steel
Colonie, New York



Site Location Map
Project 3612-06-2060
Figure 1



Legend

Proposed Surface Soil Samples	Initial Test Pit Locations	Estimated Location of South Lagoon
Proposed SMSA GW Wells	Existing SMSA GW Wells	

0 15 30 Feet

Albany County color digital orthoimagery (2004) obtained from New York State GIS Clearinghouse at: <http://www.nysgis.state.ny.us>

Prepared/Date: BRP 01/10/07
Checked/Date: JPC 01/10/07

NYSDEC
AI Tech Speciality Steel
Colonie, New York



Proposed Locations
South Lagoon Area
Project 3612-06-2060

Figure 2



Prepared/Date: BRP 07/14/11
Checked/Date: JPC 07/14/11

Table 1: Proposed Field Tasks and Methodology - South Lagoon

ACTIVITY	LOCATION	DESCRIPTION AND METHODOLOGY	RATIONALE	ANALYTICAL
Survey South Lagoon depth and limits	South Lagoon	MACTEC or a survey subcontractor will collect elevation measurements at 6 locations along the bottom of the South Lagoon prior to the start of demolition and excavation activities as well as measurements to define the limits of the South Lagoon structure. Nearby monitoring wells can be used as horizontal and vertical control for the survey.	Document the extent and depth of the South Lagoon prior to the removal action to allow for comparison with the final excavation limits.	None
Excavate approximately 150 cubic yards of PCB contaminated soil and concrete from the South Lagoon	South Lagoon	The Subcontractor will provide excavation, transportation, waste characterization, and off-site disposal of PCB contaminated soil, sludge, and entire lagoon structure. The Subcontractor will place the material on a tarp in the designated bermed stockpile area located in a paved area of the site where it will also be covered. The Subcontractor may place material directly into containers as an alternative. Water removed during the excavation should be containerized separately for characterization and disposal. The Subcontractor is responsible for waste characterization and transportation and disposal.	Removal and disposal of PCB contaminated soils and sludge. The excavation will be considered complete when the structure and contents have been removed and underlying soils excavated to a depth specified by MACTEC (objective is one foot below floor if present or two feet below bottom depth of side walls if no floor is present). MACTEC may request removal of additional soils based on staining or other observations of contamination to the extent practical.	The excavation Subcontractor is responsible for collection and analysis of waste characterization samples.
Sample bottom and sidewalls of excavation	SX-01 through SX-4, and BX-01 through BX-04	MACTEC will collect soil samples from each sidewall and four from the bottom of the excavation using stainless steel bowls and spoons, and a hand auger or spade. If the excavation is too steep, deep or unstable personnel will not enter the excavation but collect samples from material retrieved with the excavator bucket or a hand auger with handle extensions.	The samples will be collected to provide post excavation documentation to characterize the soils at the limits of the excavation.	PCBs
Survey excavation depth and limits	South Lagoon	MACTEC or a survey subcontractor will collect elevation measurements at 6 locations along the bottom of the final excavation as well as measurements to define the horizontal extent of the excavation. Nearby monitoring wells can be used as horizontal and vertical control for the survey.	Document the final extent of the removal action and allow rough confirmation of excavated volumes.	None
Backfill excavation	South Lagoon	The excavation will be backfilled and compacted with clean fill, and the area regraded to meet existing grade and promote positive drainage. Backfilling and compaction will be conducted in accordance with the following: Backfill is earthen material that shall be free from frozen materials; perishable rubbish, trash, or refuse; peat; saturated soils; deleterious material including grubbings, stumps, or brush; fine grained or plastic soils above their liquid limit at the time of compaction; and other unsatisfactory soil/material as determined by the MACTEC representative. The moisture content shall be sufficient to provide the required compaction and a stable embankment. Compaction shall be completed at a maximum of 1-foot lifts with an excavator bucket or tracked equipment. The supplier of backfill material will provide certification that the soil is clean (i.e., free of contamination) natural soil. Laboratory data shall be attached to the certification to verify that analyses have been performed and results are below NYSDEC Criteria for Restricted-Residential (6 NYCRR 375, Table 375-6.8(b)).	Restore excavation area to general surrounding grade with clean fill	The excavation Subcontractor is responsible for collection and analysis of backfill characterization samples.
Seed and mulch backfilled area	South Lagoon	The backfilled area shall be seeded and covered with approved mulch. The mulch and seed shall be approved by MACTEC prior to application	Leave the subject area in a safe condition ready for potential reuse.	None
Decontamination of excavation equipment	South Lagoon	Decontamination of excavation equipment, sampling equipment, and other materials will be conducted at the location of the work activity. Subcontractor is responsible for decontamination	Prevent migration of site related contaminants off site.	None
Transport PCB contaminated soil and concrete off site.	South Lagoon	The PCB-contaminated soil/concrete will be transported to facility TSCA approved disposal facility in accordance with performance based criteria per federal PCB regulation under 40 CFR 761.61(b). Waste profile and manifests will be provided to MACTEC within 14 days of project completion.	Verification of proper disposal of PCB wastes.	The excavation Subcontractor is responsible for any characterization analyses required by the disposal facility(s).

NOTES:

PCBs PCBs analyzed by USEPA Method 8082.

Table 2: Proposed Field Tasks and Methodology - Waste Management Area

ACTIVITY	LOCATION	DESCRIPTION AND METHODOLOGY	NOTES
Item 1 – Unstable Slope and Unconsolidated Debris Near Monitoring Well Location WW-26.	Item 1 is located outside the limits of the landfill cap and is immediately adjacent to the perimeter fence near monitoring well location identified as WW-26.	This is an area of minor slope failure (i.e. sloughing) at the top of a steep slope leading to a drainage gully that extends to the Kromma Kill. An area of approximately 30 feet by 50 feet section of steep slope appears to have settled up to approximately 4 feet and sloughed down slope. Fissures are evident at the top of slope. The displacement of the slope has revealed waste materials including some metal, concrete, and refractory brick that were likely under shallow soil cover before the slope movement. The Subcontractor will repair the sloughed slope section by excavating to reduce the overall height of the slope and removing Site-related debris fill; filling and compacting the area with imported soil to flatten the final slope to a maximum 2H:1V grade; and grading to achieve a finish grade that does not promote concentration of storm water runoff flows. The final grade of the slope will be stabilized with armoring proposed to include geotextile overlain by a minimum of 12 inches of six-inch riprap. The excavated soil containing waste material remnants as well as any surficial waste identified during the work will be segregated and transported to the site's Main Plant Area, Scrap Metal Storage Area (SMSA).	
Item 2 – Eroded Metal Culvert.	Item 2 is a corrugated metal pipe culvert outletting to a gully that leads to the Kromma Kill. The culvert is immediately below the area of unstable waste identified as Item 1.	. The origin of the pipe is not known. The culvert pipe projects five to six feet from the slope. Although it appears erosion of the bank surrounding the culvert outlet occurred some time ago, the mitered end indicates that the slope once extended to the end of the pipe. Repair of the culvert outlet will entail removing the mitered pipe end, cutting back the pipe to conform to the existing slope and re-installing the mitered pipe end.	The corrugated pipe is located off the WMA property on an adjoining parcel. Property owners have given permission for repairs to be completed.
Item 3 – Eroded Drainage Channel Exiting from the Storm water Detention Basin.	Item 3 is a section of drainage channel with exposed turf reinforcement matting and no vegetation. This section of channel is at the confluence of the storm water detention basin outlet and a slope bench outside of the landfill limit (see Figure 1).	It appears that the storm water detention basin outlet may have at one time been vegetated and then later repaired with riprap armoring. The exposed turf reinforcement is located at a transition point between riprap and gabion mattress armoring just before the channel slope steepens. It is not clear if this condition has existed for an extended period, but no severe degradation of the polypropylene/polyethylene materials of the mat was noted. Repair of the drainage channel section will include installation of riprap larger in size than currently located up gradient to stabilize the channel during periods of high flow. Approximately 25 linear feet of drainage channel be re-lined with 12 inches of six-inch riprap.	
Item 5 – Eroded Topsoil at the Weep Drain	Item 5 is representative of the entire landfill weep drain system that encircles the landfill at the top grade break between shallow and steep landfill slopes and at the toe of slope at the limit of the landfill (see Figure 1).	The top edge of topsoil at the exposed riprap/topsoil interface has eroded, exposing the underlying separation geotextile. Repair of the landfill weep drains will include the import and installation of stone on the up gradient side of all weep drain locations where erosion of the topsoil is evidenced by exposed separation geotextile. The lateral extent and depth of stone will be sufficient to completely cover the exposed geotextile. It is assumed that approximately 75 percent of the installed weep drain requires repair or 3,094 linear feet of the total 4,125 feet of weep drain (as measured on Figure 1). A typical repair section will include a six inch depth of three-inch riprap over an 18 inch width.	
Item 6 – Eroded Drainage Channel at South Perimeter Fence.	Item 6 is an observed area of eroded drainage channel along the south perimeter of the landfill. The area of erosion is located at the lowest point of the perimeter drainage channel inside of the fence at the convergence of the vegetated perimeter drainage channel and the landfill weep drain (see Figure 1).	Riprap, geotextile, and geomembrane were noted to be installed along this section of channel with some displaced riprap exposing the underlying geotextile. Erosion has caused the mobilization and displacement of the riprap armoring. Repair of the eroded drainage channel will include removal of the existing riprap and replacement with larger sized riprap stone. Any area of the channel where the cushion geotextile above the geomembrane is damaged or compromised will be repaired with similar nonwoven geotextile. The repair will involve an approximate 60 foot length of drainage channel with the installation of 12 inches of six-inch riprap.	This item will be completed in coordination with the unnamed tributary soil characterization activities proposed to the NYSDEC under separate cover. Upon confirmation of the schedule and details of the remedial activities in this area repair of this item will occur accordingly.

Table 2: Proposed Field Tasks and Methodology - Waste Management Area

ACTIVITY	LOCATION	DESCRIPTION AND METHODOLOGY	NOTES
Item 7 – Damaged Gabion Mattresses.	Item 7 is an area located down slope from the outfall of the landfill surface water drainage system to the Unnamed Tributary which flows into Kromma Kill at the southeast end of the Site (see Figure 1).	Storm water runoff and weep drain flows are conveyed by drainage channels to a steep section of channel lined with gabion mattresses. The gabion mattresses are currently compromised due to some displaced top sections of galvanized steel cages that contain the small riprap stone. The connection ties of the top cages may have become corroded, then weakened, and broken. Repair of the damaged gabion mattresses will include re-setting the top galvanized wire cages and securing with new connection ties. Riprap of similar size to the existing will be added if it is determined that some stone has been displaced downstream. Galvanized wire cages determined to be in poor condition will also be replaced as needed. Repairs will include replacing one ten foot wide by five foot long wire cage and reconnecting two other sections.	
Item 8 – Eroded Drainage Down-Chute.	Item 8 is a vegetated drainage down-chute located on the landfill at the southeast end perimeter (refer to Figure 1).	The drainage feature conveys storm water runoff from the cover collected by the slope bench to the perimeter drainage channel. The perimeter drainage channel ultimately outlets to the Unnamed Tributary. At the transition from the slope bench to the down-chute (a transition from a flatter to steeper section of slope), gully erosion has occurred. Cover soils approximately 12 to 18 inches deep have eroded. Repair of the vegetated down-chute will include excavation and removal of deposited soil sedimentation, grading to shape the subgrade of a new channel cross section, and installing geotextile and riprap armoring. The repair will extend for the length of channel slope steeper than 10H: 1V. Repairs will include the installation of approximately 75 linear feet of a new riprap down chute with a 12 inch layer of six-inch riprap.	Prevent migration of site related contaminants off site.
Item 9 – Eroded Cover Soil Area.	Item 9 is a concentrated area of erosion along the northeast side of the landfill (refer to Figure 1)	The affected area begins as rill erosion on the landfill cover soils and continues outside the landfill limit to the perimeter fence and beyond. Just inside the fence, the erosion is most significant but generally limited to less than six inches in depth. Because this erosion was caused by a concentration of runoff flow in an area of insufficient armoring, the repair requires installation of a new drainage channel to convey flow off the landfill. Repairs will include the installation of approximately 150 feet of new drainage channel/down chute. The drainage channel will be lined with geotextile overlain with 12 inches of six-inch riprap. At the perimeter fence, a riprap apron approximately 15 feet wide by 20 feet long will be installed at a flat grade with armoring to match the channel. An estimated 20 foot section of rill erosion outside of the fence will be filled, seeded, and mulched.	
Item 10a – Leaning Fence Section.	Item 10a is a section of landfill perimeter fencing (6-foot high) along the east side of the landfill that is severely leaning and in some locations unsupported (see Figure 1).	The fence is installed at a grade break between a flatter slope at the landfill perimeter and a steeper slope that terminates in a wet area overgrown with phragmites. An angle post in the fence line was leaning so severely that the concrete footing of the overturned post was exposed. The footing appeared shallow and under designed given the installation geometry and site conditions. The section of leaning fence will be repaired by removing the fabric from the posts, re-setting the posts, and re-installing the fabric. The installed depth of the posts will be increased to provide additional support to the fence. New longer posts may be required to achieve the necessary support depth. All corner and angle posts will be set in concrete foundations equal in depth to a minimum of six inches below the buried depth of the post. A concrete foundation will also be added to every third line post (approximately 16 to 20 foot intervals). Repairs will include approximately 15 new fence posts to be installed in concrete foundations to repair the section of fence.	
Items 10b, 10c and 10d – Fence Integrity Repair.	Items 10b and 10c are both sections of cut chain link fence fabric due to vandalism. In both cases, the bottom half of the fence fabric at a line post was cut and pulled back to provide unauthorized access to the landfill. Item 10d is a location near the treatment building (not shown on Figure 1) where a tree has fallen on the fence.	Repair to the section of cut fence will include re-installing the pulled back sections of fence fabric by connecting to the adjacent fence post with appropriate galvanized fence hardware. In cases when adequate length of in-place fence fabric is not available to repair the opening, additional fence fabric will be supplied. The subcontractor will cut and remove the tree that has fallen onto the fence and affect any necessary repairs to the fence fabric. The subcontractor will inspect the entire fence perimeter for any similar issues and will remove vegetation if found. The total length of fence repair is approximately 200 feet.	