Mechanicville Light Industrial Park

MECHANICVILLE, SARATOGA COUNTY, NEW YORK

Final Interim Site Management Plan

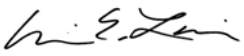
NYSDEC Site Number: E546050

Prepared for:

City of Mechanicville, New York
36 North Main Street
Mechanicville, NY 12118

Prepared by:

HRP ASSOCIATES, INC.
dBA HRP ENGINEERING, PC.
1 FAIRCHILD SQUARE SUITE 110
CLIFTON PARK, NEW YORK 12065
(518) 877-7101



Cailyn E. Locci
SENIOR PROJECT GEOLOGIST

Jeffrey R. Sotek, PE, CSP, CIH
SENIOR PROJECT MANAGER

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

AUGUST 2010

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The contamination identified during the remedial investigations remains on the site. Institutional Controls (ICs) and Engineering Controls (ECs) have been incorporated into the site remedy by the NYSDEC to provide proper management of remaining contamination in the future to ensure protection of public health and the environment. This interim site management plan (SMP) is a detailed description of all procedures required to manage contamination at the site, including: (1) implementation and management of all ICs and ECs; and (2) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

The Engineering Control system for this site includes the following:

- **Industrial Area** (17 acres)- Minimum of 12 inches of soil cover underlain by a demarcation layer (i.e. snow fencing).
- **Restricted Residential Area** (8 acres)- Minimum of 24 inches of soil cover underlain by a demarcation layer
- **Any Vegetative Areas**- The top 6 inches of the soil cover would be of sufficient quality to support vegetation (i.e. top soil)
- **Any Non-Vegetative Areas** (i.e. buildings, roadways, parking lots) would be covered by a paving system or concrete at least 6 inches thick.
- **Any future intrusive work** that will penetrate or disturb the soil cover will be performed in compliance with the Excavation Work Plan (found in Appendix A).

The Institutional Control system for this site includes the following:

- The restricted residential area will only be used for restricted residential use, commercial use, and/or industrial use.
- The industrial area will only be used for industrial use as defined by NYSDEC as “land use category which shall only be considered for the primary purpose of manufacturing, production, fabrication or assembly processes and ancillary services. Industrial use does not include any recreational component.” Ancillary services include warehousing and equipment storage.
- The following are prohibited on the property: residential homes,

apartments, vegetable gardens and farming, raising livestock or producing animal products for human consumption.

- The use of groundwater as a source of potable or processed water will be restricted.
- Continued evaluation of the potential for vapor intrusion for any buildings developed onsite is required.
- The property owner will provide a periodic certification to the NYSDEC to certify the ECs and ICs are in place and land uses have not changed.

An annual site wide inspection must be conducted by the site owner at least once a year or within 5 days after all severe weather conditions that may have affected soil covers. An inspection form (Appendix C) will be completed and kept on file in City Hall in the City of Mechanicville. Notification will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60 day advance notice of any proposed site changes;
- 7 day advance notice of any proposed intrusive work;
- Notice within 48-hours of any damage or defects to the onsite foundations structures;
- Verbal notice by noon of the following day of any emergency (i.e. fire, flood, tornado or earthquake);
- Within 7 days after the emergency event a written summary of actions taken, or to be taken, and the potential impact to the environment and the public;
- Within 45 days of the emergency event a follow-up status report.

In conjunction with the annual site inspection a qualified environmental professional or Professional Engineer will complete a Periodic Review Report as described in Section 5.0.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- Notify the NYSDEC in writing at least 60 days prior to the change; and
- Within 15 days after the transfer of all or part of the site, the new owners name, contact representative and contact information will be confirmed in writing.

Any future intrusive work that will penetrate the soil cover, encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan described in Appendix A. The Work Plan includes, but is not limited, to the following:

- The NYSDEC must be notified in writing of any intrusive work at least 15 days prior to the start of the work;
- A qualified environmental professional must be present for all intrusive work for soil screening and testing;
- Truck transport route to and from the site must be followed (see Appendix A for truck route);
- The cover system must be restored in a manner that complies with the Record of Decision and the EC's established.

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at the Mechanicville Light Industrial Park (hereinafter referred to as the "Site") under the New York State (NYS), Environmental Restoration Program (ERP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was investigated in accordance with State Assistance Contract (SAC) # C303093, (ERP site number E546050), which was executed on March 21, 2006.

1.1.1 General Background

The City of Mechanicville entered into the ERP SAC with the NYSDEC to investigate the Mechanicville site, a 25.0±-acre property located in City of Mechanicville, Saratoga County, New York. A map showing the site location and boundaries of this 25.0± acre area is provided in Figure 1. The boundaries of this site are more fully described in the metes and bounds site description that accompanies the Environmental Easement, attached as Appendix D to this plan.

After completion of the investigation work described in the Record of Decision, some contamination was left in the subsurface, hereafter referred to as "remaining contamination." This interim Site Management Plan (SMP) was prepared to manage remaining contamination at the site in perpetuity or until extinguishment of the Environmental Easement in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by HRP Associates, Inc. (dba HRP Engineering PC), on behalf of the City of Mechanicville, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated November 2009, and the guidelines provided by NYSDEC. This SMP addresses the means for

implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

Contamination identified during the remedial investigations remains on the site. ICs and ECs have been incorporated into the site remedy to provide proper management of remaining contamination in the future to ensure protection of public health and the environment. An Environmental Easement will be granted to the NYSDEC, and recorded with the Saratoga County Clerk, that provides an enforceable legal instrument to ensure compliance with this SMP and all ICs and ECs placed on the site. The ICs place restrictions on site use, and mandate maintenance and reporting measures for all ICs and ECs. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage contamination at the site, including: (1) implementation and management of all ICs and ECs; and (2) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs, which includes a reporting plan for the submittal of data, information, recommendations, and certifications to NYSDEC; (2) a Monitoring Plan for implementation of Site Monitoring; and (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP may be a violation of Environmental Conservation Law and the environmental easement, which could be grounds for revocation of the COC;

- Failure to comply with this SMP may also be a violation of 6NYCRR Part 375 and the SAC # C303093 and could potentially be subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The site is located in the City of Mechanicville, Saratoga County, New York and consists of two tax parcels, S/B/L 261.-51-1-2 and 261.-1-3.112. The site is approximately 25.0± acres area bounded by Yankee One Dollar Warehouse to the northwest, Canadian Pacific Railroad to the northeast, Elizabeth Street Extension, and then vacant woodlands to the west, and Clement Street, then Residential and Mechanicville/Stillwater Little League Baseball Fields to the South (see Figure 1). The boundaries of the site are more fully described in Appendix D – Metes and Bounds.

The site is planned to be broken up into three areas for proposed future use. The main portion of the site (or approximately 17 acres or 68% of the site), is proposed as industrial use. The City is also proposing two separate areas, which are adjacent and contiguous to be used as restricted residential use (8 acres or approximately 32% of the site). This restricted residential use will apply to the existing baseball field, (approximately 2- acres or 8% of the site), and the remaining undeveloped area, the proposed soft ball fields. Currently at this time, the need for the new softball recreational playing fields may no longer be as great. The City plans to remediate the area for restricted residential use as provided for in the ROD. The City will be notifying the Department of a new proposed use for this 8 acre area that is likely commercial or industrial in nature.

1.2.2 Site History

Based on HRP's historical research, which included the review of available newspaper articles and previous environmental reports, as well as interviews with City officials, the majority of the site was historically occupied by Boston and Maine Railroad,

who used the site as a rail yard starting in 1921. Principal structures at the subject property included the Power House, Sand House, Engine House, Round House and Coal Trestle (concrete structure). The Engine House was demolished by 1945 and by 1967, the Round House and Power House buildings were demolished, and the water tank was removed. Operations reportedly ceased during the mid- to late-1980's, and by 1990, the Sand House was also demolished. Then only remaining structures onsite were the coal trestle, concrete slab remains of the Round House, and a small structure reportedly used as sleeping quarters for the engineers.

During the 1990's portions of the site were filled with soil from various City of Mechanicville Department of Public Works (DPW) projects in preparation for site development. In 1996, the subject site was purchased from Boston and Maine Railroad by the City of Mechanicville. During 1996/1998, the site was improved with an office, garage, salt shed and paved parking lot for the DPW. In addition, Industrial park road was constructed, running east/west along the site and ending in a cul-de-sac in the southwestern corner.

The Mechanicville/Stillwater Little League has leased a section of the southwest corner of the site since 1995. A ball field, known as Field "C" was constructed in this area at that time, and batting cages were installed following that. Reportedly, clean fill from offsite was used as a surface covering when Field "C" and the batting cages were constructed.

Several previous investigations were conducted onsite prior to the Remedial Investigation described within this SMP. In 1997, a Phase II investigation was performed by the City, documenting petroleum contamination onsite. In 2002, a Phase I investigation was performed, followed by a Phase II investigation in 2003.

1.2.3 Geologic Conditions

Based on data collected from installation of test pits, soil borings, monitoring well installation and soil vapor borings, the surficial geology of the site begins at a depth of approximately 1-2 feet blow ground surface (bgs). Underlying surficial geology consists of file to medium grained, tan to gray sand from approximately 2-6' bgs. Below the sands, is a medium-coarse light brown sand or a grey silty clay from approximately 6-12' bgs. Bedrock, Canjoharie Shale, was encountered 9-14' bgs in some areas. According to

the USGS Surficial Geology Map of new York State (1993) the on-site deposits are classified as Udorthents or soil material excessively drained to poorly drained soils or soil material that has been disturbed. Udorthents occur in landfills or construction sites where the former soil horizons have been buried, removed or truncated. Udorthents have textures of silt loam to sand with rock fragment content. HRP's observations are generally consistent with mapped descriptions. Surficial geology was encountered below the fill to a depth of at least 15 feet bgs.

Bedrock was encountered during this investigation in the portion of the soil borings at 11' bgs on average. According to the USGS Bedrock Geologic Map of New York State, the bedrock underlying the site is classified as belonging to the Middle Ordovician-aged, Canajoharie Shale (Oc). This Shale was formed 435-500 million years ago as deep, black ocean mud. The shale was later exposed after the sea drained away and softer rocks lying above the shale were stripped away by erosion. Based on the results of both groundwater elevation surveys, flow is interpreted to be easterly towards the Hudson River.

A geologic cross section is shown in Figure 6 and 7 and a groundwater flow figure is shown in Figure 3.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to by HRP Associates for the City of Mechanicville under the ERP from June 2007 through May 2009 to characterize the nature and extent of contamination at the Mechanicville Light Industrial Park site. The investigation consisted of a Ground Penetrating Radar (GPR) survey, the installation of test pits, monitoring wells and soil borings; groundwater, surface and subsurface soil sampling and analysis; completion of public well survey and a professional survey of locations of the test pits, surface soil samples, subsurface soil boring samples and newly installed groundwater monitoring wells; and soil vapor collection and analysis. The results of the RI are described in detail in the following report:

Remedial Investigation Report, Mechanicville Light Industrial Park, Prepared for the City of Mechanicville, New York, by HRP Associates, Inc., dated March 6, 2009.

Below is a summary of site conditions when the RI was performed between 2007 and 2009:

Soil

Various compounds were detected in the proposed industrial area of the site among the surface and subsurface soil samples collected, however they were contained to the central portion of the subject site. Of the compounds detected, with two exceptions, no volatile or semi-volatile organic compounds (VOCs or SVOCs), metals, PCBs or pesticides were detected in the proposed industrial area at concentrations that exceeded 6 NYCRR Subpart 375-6 Protection of Public Heath Soil Cleanup Objectives (SCOs) for commercial or industrial use. The two exceptions include Benzo(a)pyrene, which was detected in three surface soil samples, and Arsenic, which was detected in seven surface soil samples at a concentration slightly exceeding Commercial and Industrial SCOs. Although the majority of the proposed Standards, Criteria, and Guidance (SCGs) were met in this area, it should be noted that during field activities several test pits as well as one soil boring, all located in the central portion of the site, exhibited strong petroleum odors within the subsurface soils and Non-aqueous Phase Liquid (NAPL) was observed on the groundwater. To address the contaminated soils in the central portion of the subject property IRM activities were performed. In total, approximately 2,292 tons of contaminated soil was removed and disposed of offsite. In addition, approximately 105,200 gallons of contaminated water was evacuated and treated for petroleum contamination from the excavation prior to discharge to the sanitary sewer

Any compounds detected in the existing baseball field area were compared to 6 NYCRR Subpart 375-6 Soil Cleanup Objectives (SCOs) Protection of Public Health for unrestricted and restricted residential use. All compounds detected in the baseball field area were below Unrestricted SCOs with the exception of slight exceedances among both the surface and subsurface soil samples collected. Among the subsurface samples one pesticide, 4,4-DDE and metals including Nickel and Zinc slightly exceeded Unrestricted SCOs, while only one compound, Manganese, marginally exceeded Restricted Residential SCOs. Among the surface samples analyzed, two pesticides, 4,4-DDE and 4,4 DDT, as well as Copper exceeded Unrestricted SCOs. There were no exceedances above Restricted Residential SCOs. All compounds detected in the subsurface soil sample

collected from the proposed softball field area, which is adjacent and contiguous to the baseball field, were below Unrestricted and Restricted Residential SCOs. Among the surface samples analyzed, compounds detected were below Unrestricted SCOs with the exception of substantial exceedances including Benzo(a)anthracene, Benzo(b)flouranthene, Chrysene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene. Minimal exceedances above Unrestricted SCOs for metals were detected for Arsenic, Copper, Lead and Zinc. All other compounds were below Unrestricted and Restricted Residential objectives. Figure 2 shows surface and subsurface soil sample locations.

Site-Related Groundwater

Groundwater samples showed the presence of one VOC, Bromomethane, one SVOC, Bis(2-Ethylhexl)phthalate and sixteen metals above groundwater standards. The metals detected at levels exceeding NYSDEC TOGS 1.1.1 groundwater standards include Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, and Sodium. There were no other exceedances above the TOGS values in the groundwater samples. Figure 2 shows groundwater sample locations.

On-site and Off-site Soil Vapor

The results of the soil vapor sampling showed low levels of chlorinated compounds (commonly associated with solvent degreasing), and non-chlorinated compounds (commonly associated with petroleum products) were detected at low levels across the site. The findings indicate a general degradation of the soil and groundwater on-site from chlorinated and non-chlorinated compounds. Trace levels of PCE (well below NYSDOH Guidance Values) and Methylene Chloride were detected in soil vapor point SV-05 located in the northern area of the site, north of the D.P.W. Garage, however concentrations for those compounds were not detected in the results for the nearest soil boring sample (SB-19) or the nearest groundwater sample (MW-3). A correlation can be made between the subsurface soil and groundwater samples in relationship to the soil vapor in the central portion of the site only, and as a result, the central portion of the site

was considered a source area. The IRM tasks completed removed and treated much of the source area. Figure 2 shows onsite soil vapor sample locations.

1.4 SUMMARY OF REMEDIAL ACTIONS

The site was remediated in accordance with the NYSDEC approved Interim Remedial Work Plan dated July 2008.

The following is a summary of the interim remedial measure (IRM) performed at the site:

During the RI, grossly contaminated subsurface soils and groundwater were detected in a discrete central portion of the proposed industrial area. The subsurface soils in this location exhibited evidence of petroleum free product, staining, and petroleum odors. To address this source of subsurface contamination, in September 2008, a focused soil excavation and dewatering IRM was conducted.

1.4.1 Interim Remedial Measures (IRM), September 2008

During excavation activities, excavation dewatering and active groundwater treatment via carbon filtration was performed to address petroleum contamination. Approximately 105,200 gallons of contaminated water was evacuated and treated for petroleum contamination from the excavation prior to discharge to the sanitary sewer system. The dimensions of the excavation were approximately 200 ft in length, 70 feet wide, by 6 feet deep. In total, approximately 2,292 tons of contaminated soil was excavated and transported for off-site disposal. The excavation was backfilled with clean, off-site soil.

The post-excavation confirmatory samples were analyzed for VOCs and SVOCs only, as the preliminary results from the RI revealed that petroleum contamination were the main subsurface contaminants of concern in that area, and results were compare to Industrial SCOs. While there were numerous detections of several VOCs and SVOCs in the 29 confirmatory soil samples collected only one post-excavation soil sample, SW-9, was detected above the industrial use SCO's. SW-9 was collected from the northeastern most portion of the excavation wall at 3 ft depth. SW-9 exhibited benzo(a)pyrene at 1,500 ppb, which slightly exceeds the respective industrial SCO of 1,100 ppb. These

results confirm that a majority of the site's petroleum contamination was addressed through the implementation of the IRM.

A figure showing areas where excavation was performed is shown in Figure 2 and Figure 2A.

1.4.2 Remaining Contamination

1.4.2.1 Surface Soil

Investigative tasks performed during the RI included the collection of 23 surface soil samples and 5 offsite background surface soil samples. Three additional surface soil samples were taken in the proposed softball field area to further define the SVOC contamination detected. The background surface soil samples were collected off-site from Tallmadge Park located south of the site and areas along sidewalks in the residential neighborhoods south-southeast of the site.

Existing Baseball Field Area (Restricted Residential Use)

Four of the 23 surface soil samples collected on site were collected from the existing baseball field area. Surface soil sample SS-20, there was a detection of two pesticides, 4,4-DDE and 4,4-DDT, and one inorganic, copper were below the respective restricted residential SCOs. No other contaminants were detected above the restricted residential use SCOs. See Figure 5 for exceedances in the proposed future restricted residential use area.

Proposed Softball Field Area (Restricted Residential Use)

Two of the 23 surface soil samples collected on site were collected from the proposed softball field area. Surface soil sample SS-15, had several estimated detections of SVOC contaminants above the restricted residential SCOs. To confirm whether this contamination was an isolated case or anomaly, three additional surface soil samples, SS-24, SS-25 and SS-26, were collected and analyzed for SVOCs only. In surface soil samples SS-24 and SS-25, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene were detected above the respective

SCOs. However, the concentrations of SVOCs detected in the additional samples were several orders of magnitude lower than that detected in SS-15. The detection of SVOC contamination at surface soil samples SS-24 and SS-25 confirms that there is slight SVOC surface soil contamination in the proposed softball field area. See Figure 5 for exceedances in the proposed future restricted residential use area.

Proposed Industrial Area

17 of the 23 surface soil samples collected on site, were collected from the proposed industrial area. Only 3 of the 14 surface soil samples exceeded the industrial SCO for benzo(a)pyrene. Benzo(a)pyrene exceedances above the SCO of 1.1 ppm, ranged from 1.6 ppm to 2.5 ppm. In addition, 8 of the 14 surface soil samples (SS-1, SS-2, SS-4, SS-5, SS-7, SS-9, SS-10, and SS-13) exceeded the industrial use SCO for arsenic, an inorganic. The arsenic exceedances above the SCO of 16.0 ppm ranged from 16.4 ppm to 65.3 ppm. See Figure 4 for exceedances in the proposed future industrial use area.

1.4.2.2 Subsurface Soil

Investigative tasks performed during the RI included the collection of 22 subsurface soil samples across the site.

Existing Baseball Field Area (Restricted Residential Use)

Only one compound marginally exceeded Restricted Residential SCOs in the baseball field area, manganese. With the exception of the marginal exceedance in the aforementioned sample, the majority of the SCGs in the existing baseball field area were met. See Figure 5 for exceedances in the proposed future restricted residential use area.

Proposed Softball Field Area (Restricted Residential Use)

All compounds detected in the subsurface soils of the proposed softball field area were below Restricted Residential SCOs, therefore achieving the SCGs in that area of the site. See Figure 5 for exceedances in the proposed future restricted residential use area.

Proposed Industrial Area

No PCBs or pesticides were detected within the subsurface soils of the proposed industrial area. Several VOCs, SVOCs and Metals were detected in the subsurface soil samples collected in this area of the site, however none of the detections exceeded the Industrial SCOs. The compounds detected, as described above, were concentrated in the central area of the site, which was consistent with previous investigation results, as well as, observations made in the field. This area of the site achieved the proposed SCGs, however during field activities soils in the central portion of the subject site exhibited strong petroleum odors and Non-aqueous Phase Liquid (NAPL) was observed on the groundwater. The IRMs were conducted to remove the contaminated soils and groundwater in the central portion of the proposed industrial area. See Figure 4 for exceedances in the proposed future industrial use area.

Tables 3 and 4, and Figure 2A summarize the results of all the soil samples remaining at the site after completion of the IRM that exceed the Track 1 (Unrestricted) SCOs.

2.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since contaminated soil and soil vapor exist beneath the site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

The purpose of this Plan is to provide:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Soil Cover

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system. The soil cover is comprised of a minimum 24 inch thick cover of clean soil over all vegetated areas in the future softball field (restricted residential). In the undeveloped portion of the future industrial use area the soil cover system is comprised of a minimum 12 inch thick cover of clean soil. Both soil cover systems will also include an indicator that underlies such as orange plastic snow fence to demarcate the cover soil from the subsurface soil. The top six inches of soil would be of sufficient quality to support vegetation. Clean soil would constitute soil that meets the Division of Environmental Remediation's criteria for backfill or local site background, as established during the Remedial Investigation. Non-vegetated areas (buildings, roadways, parking lots, etc.) would be covered by a paving system or concrete at least 6 inches thick. The existing department of public works garage and parking lot and lawn area do not require any remediation, i.e. the addition of clean fill or reconstruction of paving. The existing baseball field in the restricted residential use area will not require the two foot soil cover as the remedial investigation results confirm that during the construction of the ball field and batting cages clean fill from off site was used as surface covering.

The Excavation Work Plan that appears in Appendix A outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 3 of this SMP.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are completed is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.3 INSTITITIONAL CONTROLS

A series of Institutional Controls (ICs) are required by the ROD to: (1) implement and monitor Engineering Control Systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the existing baseball field and future softball field property to restricted residential use (as well as commercial or industrial uses); and limiting the use and development of the undeveloped proposed industrial use area to industrial use only. Adherence to these Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successor and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Soil vapor and other environmental or public health monitoring must be performed as defined in the SMP; and

- Data and information pertinent to Site management of the controlled Property must be reported at the frequency and in a manner defined in the SMP.

Institutional Controls identified in the Environmental Easement may not be discontinued without amendment to or extinguishment of Environmental Easement.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement.
Site restrictions that apply to the Controlled Property are:

- The future softball field and existing baseball field may only be used for restricted residential use provided that the long-term Engineering and Institutional Controls included in the SMP are employed, in the event the softball field is instead used for commercial or industrial uses the City will notify the Department in the manner set forth herein;
- The undeveloped portion of the future industrial area (i.e. excluding the City Department of Public Works facility and attendant features, e.g. parking lot) may only be used for industrial use provided that the long-term Engineering and Institutional Controls included in the SMP are employed. Industrial use is defined by the NYSDEC as "land use which shall be only be considered for the primary purpose of manufacturing, production, fabrication or assembly processes and ancillary services. Industrial use does not include any recreational component.";
- The property may not be used for a higher level of use, than those listed above, without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that disturbs remaining contaminated material must be conducted in accordance with this SMP,
- The use of groundwater as a source of potable or process water will be restricted, without necessary water quality treatment rendering it safe for intended use, as determined by NYSDOH;
- Continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provisions for mitigation of any impacts identified;

- Vegetable gardens and farming on the property are prohibited;
- Single family residential homes are prohibited;
- Raising livestock or producing animal products for human consumption is prohibited; and
- The property owner will provide a periodic certification of institutional and engineering controls to the NYSDEC. The certification should be prepared and submitted by a professional engineering or such other expert acceptable to NYSDEC. The statement should certify, under penalty of perjury, that : (1) the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (2) allow the Department access to the site; and (3) state that nothing has occurred that would impair the ability of the control to protect public health or the environmental, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been remediated for restricted residential use on the future softball and existing baseball field, and for industrial use in the future industrial use area (this area includes the existing City DPW facility). Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Heath and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix B to this SMP and is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all

other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures on the undeveloped areas onsite, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to volatile organic vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system must include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system. The area developed by the DPW building and associated paved areas are not subject to future soil vapor evaluation, as these areas have already been investigated.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York”. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and

maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspection will determine and the document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human heath and the environment;
- Compliance with requirements of this SMP and the environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to

verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notification

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advanced notice of any proposed changes in the site that are required under the terms of the State Assistance Contract (SAC), 6NYCRR Part 375, and/or Environmental Conservation Law.
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundations structures that reduce or have the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At lease 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the State Assistance Contract (SAC) and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and all contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the NYSDEC or to qualified environmental professionals, such as HRP Associates, Inc.. These emergency contact lists must be maintained in easy accessible location onsite.

Table 1: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
Public Relations, Mechanicville Mayor	(518) 664-8331
HRP Associates, Inc.	(518) 877-7101

Note: Contact numbers subject to change and should be updated as necessary.

2.5.2 Map and Directions to Nearest Health Facility

Site Location: Industrial Park Road, Mechanicville, New York

Nearest Hospital Name: Saratoga Hospital

Hospital Location: 211 Church Street, Saratoga Springs, NY

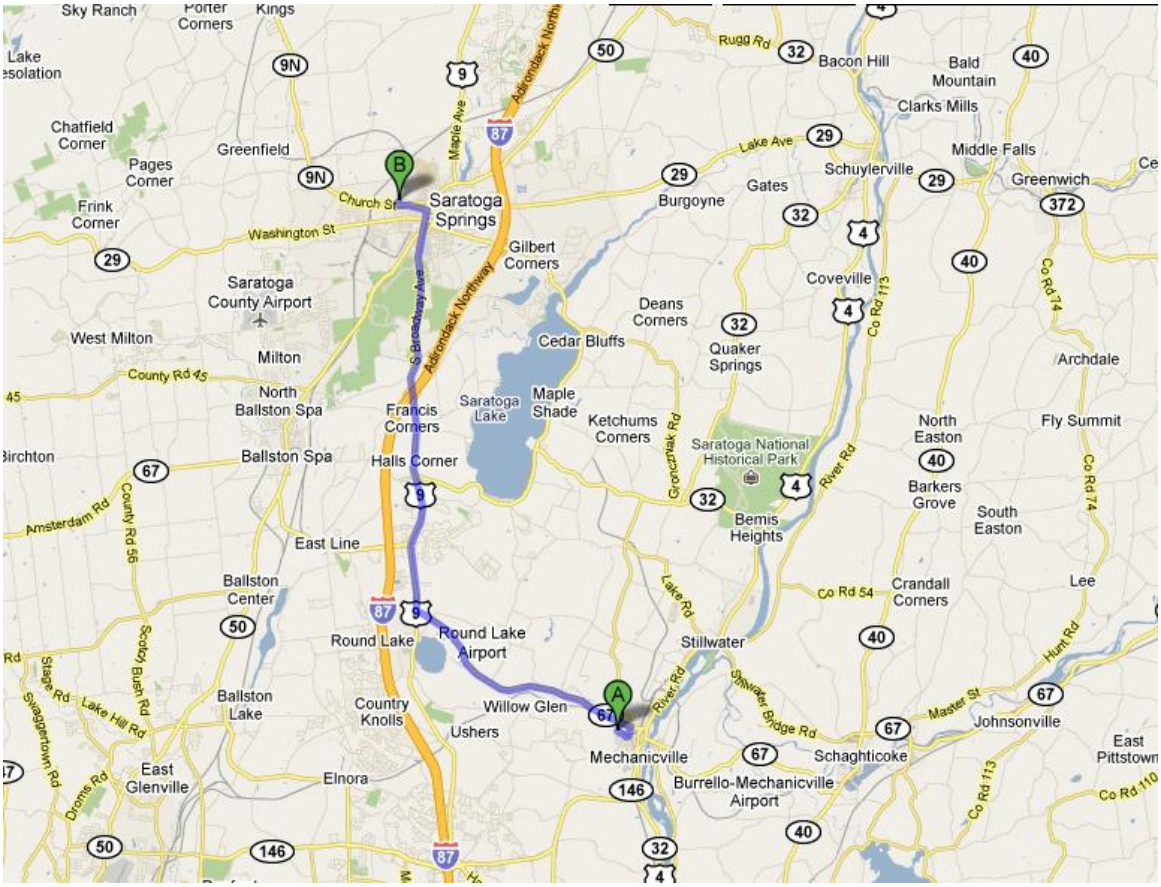
Hospital Telephone: (518) 587-3222

Directions to the Hospital: From Industrial Park Road, turn left onto Davenport Estate, continue onto Viall Avenue, in 0.4 mile take a left onto Saratoga Avenue. Continue onto Route 67 for 5.6 miles. Turn right onto Route 9, follow into City of Saratoga Springs (Route 9 is Broadway). Follow signs for hospital. Take left onto church Street. Hospital is on right about 0.5 miles.

Total Distance: 16.9 miles

Estimated Time: 26 minutes

Map Showing Route from the site to the Hospital



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found on Table 1. The list will also be posted prominently at the site and made readily available to all personnel at all times.

If a spill should occur onsite, the NYSDEC Spills Hotline (Table 1) should be called within two (2) hours of the release. The spill should be contained with proper materials (i.e. absorbent pads, booms) to the best ability of onsite personnel without compromising the health and safety of those personnel. If needed, the Fire Department should be contacted for assistance in additional containment.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.
- Reporting requirements;
- Inspection and maintenance requirements for monitoring wells; and
- Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first five years. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Sections 3.2 and 3.3 below.

3.2 SOIL COVER SYSTEM MONITORING

The areas remediated using the soil covering will be periodically checked to insure that the barrier between the cover and subsurface has not been disturbed.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Soil Vapor Monitoring

Continued evaluation of the potential for vapor intrusion for any buildings developed on the site will occur as described in section 2.3.2.

3.4 SITE-WIDE INSPECTION

Site-wide inspection will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix C). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analysis will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix B). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:

- Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
- Sample holding times will be in accordance with the NYSDEC ASP requirements.
- QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.

- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits
- Preventative Maintenance Procedures and Schedules
- Corrective Action Measures

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file in City Hall, in the City of Mechanicville. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1)

subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (o be submitted electronically in the NYSDEC identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 2 below.

Table 2: Schedule of Monitoring/Inspection Reports

Task	**Reporting Frequency**
Annual Site Wide Inspection	Once a year for first 5 years
Site Wide Inspection	As directed by NYSDEC from the 6th year onward

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

Currently the site remedy currently does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect the public health and the environment. However, should a sub-slab depressurization be installed in the future based on the results of a soil vapor intrusion (SVI) evaluation (refer to Section 2.3.2), then this SMP will be amended as appropriate to include an Operation and Maintenance Plan and an associated Section 5.0, Inspection Reporting and Certifications.

Information on non-mechanical Engineering Controls (i.e. soil cover system) is provided in Section 3 – Engineering and Institutional Control Plan. The complete SMP will be kept at the site.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspections Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. A site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspections Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective systems which are contained in Appendix C. Additionally, a general site-wide inspection form will be completed during the site-wide inspection. These forms are subject to NYSDEC revision.

All applicable inspections forms and other records, including all media sampling data and system maintenance reports, generated for the site during the report period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, and performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activates are being conducted properly; and, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 CERTIFICATION OF ENGINNERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the site, I certify that all the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at the site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal law. I, [Enter Name Here], of [Enter Business Address], am certifying as Owner’s Designated Site Representative for the site.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every year for the first five years, beginning eighteen months after the Certificate of Completion is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic review Report will be prepared that addresses the site described in Appendix B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of the certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspection and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminate concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in the NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
    - The operation and effectiveness of all treatment units, etc., including

identification of any needed repairs or modifications;

- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hardcopy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.