

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915
P: (716) 851-7220 | F: (716) 851-7226
www.dec.ny.gov

March 20, 2017

City of Lackawanna
Honorable Geoffrey M. Szymanski
714 Ridge Road, Room 301
Lackawanna, New York 14218

Dear Mayor Szymanski:

Site Management Plan
Six Vacant Lots on Ridge Road, Lackawanna
Erie County, Site No.: E915188

In light of the pending sale and redevelopment of the Six Vacant Lots site (113-115 Ridge Road, Lackawanna) the NYSDEC takes this opportunity to clarify that the accepted and approved Site Management Plan for the subject site shall consist of appendices G and H of the Site Investigation/Remedial Alternatives Report (May 2006) **with revisions to those appendices** as noted below and in the enclosed excerpts. Specifically:

1. Section G.8 of Appendix G (Soil/Fill Management Protocols) is rescinded. Fencing the site and posting warning signs prior to placement of the site cover are not necessary components of the site remedy.
2. Typographical errors in Figures G-1 (Soil/Fill Characterization Flow Chart) and G-2 (Subgrade Material Flow Chart) of Appendix G have been corrected.
3. Section H.3, page H-3 of Appendix H (Operation, Monitoring and Maintenance Work Plan) is revised: "Where not paved or covered by new site structures, the Site Will be covered with... ' **a minimum of one foot** "of documented soil cover material".
4. Section H.3, Page H-3 is further revised: **The clean soil cover material shall be placed on top of a demarcation layer** of netting, landscape fabric or other material suitable for delineating the boundary between clean cover material and existing soil/fill.
5. Sections H.4.2 and H.6.1 of Appendix H are revised: "The soil cover will be placed..." and "Cover soil shall be placed..." **in accordance with the Record of Decision (May 2006)**

The Record of Decision is the official description of the site remedy, the Site Management Plan stems from it. A two-foot site cover might be required for residential use of a site, but since the intended use of the Six Vacant Lot site was and still is commercial, the Record of Decision required a minimum site cover of just one foot.



Department of
Environmental
Conservation

Honorable Geoffrey M. Szymanski
March 20, 2017
Page 2

The environmental easement that was recorded for the site in September 2007 will also need to be corrected; it states that the cover shall be two feet thick instead of the required one-foot minimum thickness. Please contact the NYSDEC's project attorney, Bradford D. Burns, concerning the amendment of the easement.

Bradford D. Burns, Senior Attorney
NYS Dept of Environmental Conservation
Office of General Counsel
625 Broadway, 14th Floor
Albany, NY 12233-1500
Phone: (518) 402-9518
Fax: (518) 402-9018
Bradford.burns@dec.ny.gov

Please call me at 716-851-7220 or email david.locey@dec.ny.gov if you have any questions.

Sincerely,



David P. Locey
NYSDEC Project Manager

DPL:tm

Enclosures

Ec w/Enc:

Bill Burdwood, Durban Group
Andrew Hart, Bergmann Associates
Stephen DeMeo, Bergmann Associates
Fred Heinle, City of Lackawanna Development
Antonio Savaglio, Lackawanna City Attorney

FIGURE G-1

SOIL/FILL CHARACTERIZATION FLOW CHART

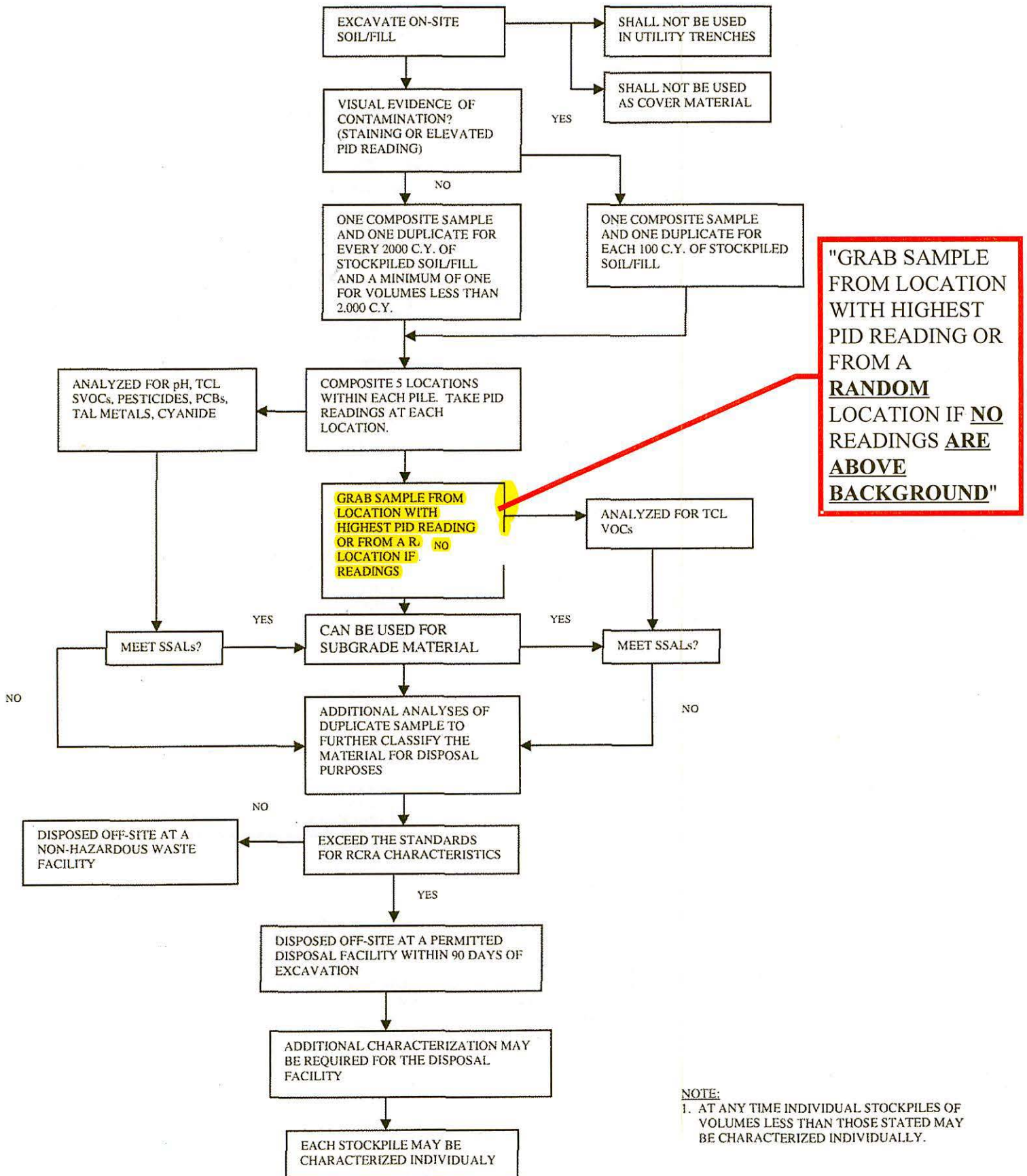
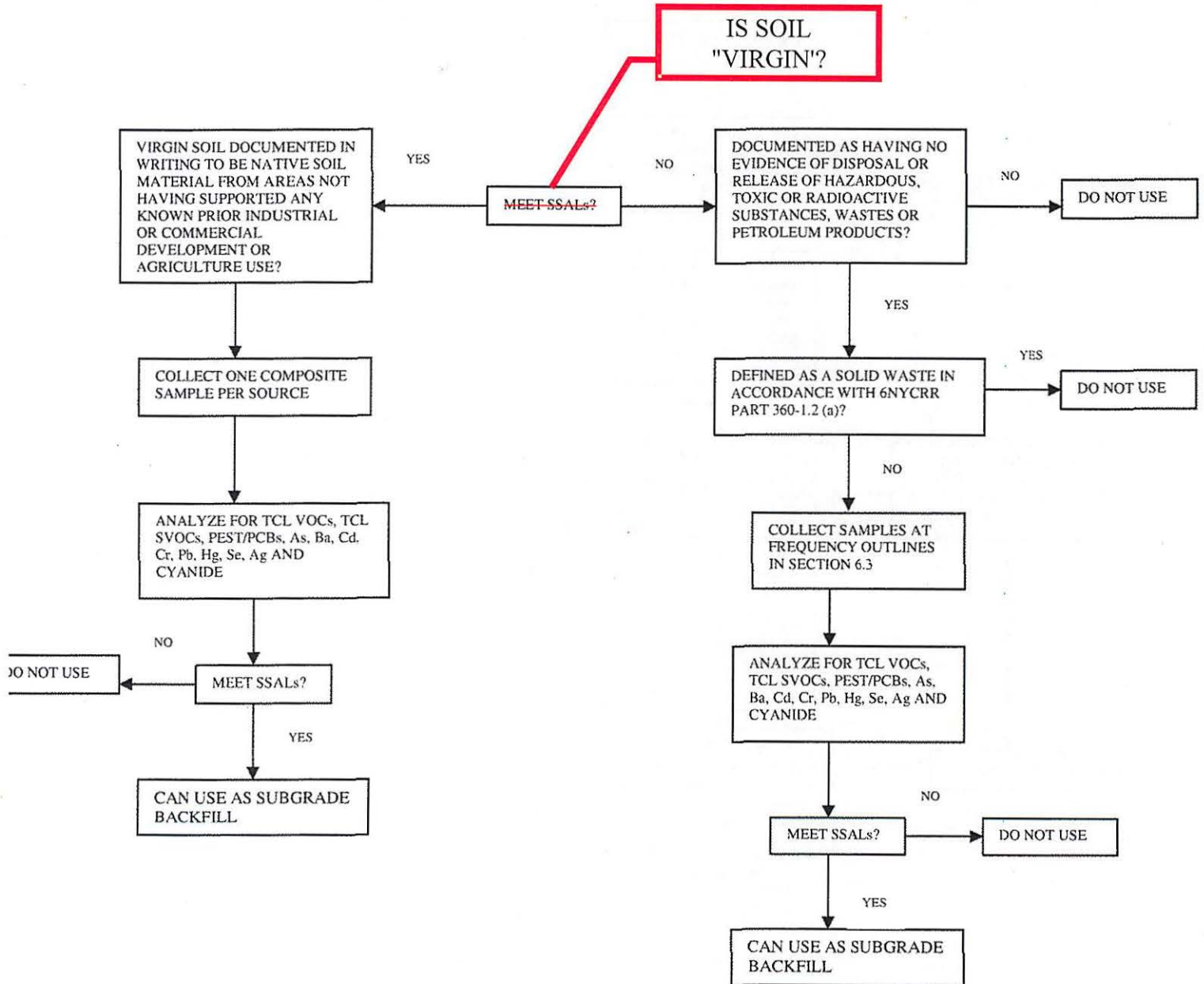


FIGURE G-2

SUBGRADE MATERIAL FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

be discharged to the local sewer authority under a discharge permit. If the water quality is such that the local sewer authority discharge permit requirements will be exceeded, or the local sewer authority will not approve the discharge to a sewer, it will be transported off-site for proper disposal or treated on-site via a treatment system that has been approved by NYSDEC.

Runoff from surface discharges shall be controlled. No discharges shall enter a surface water body without proper permits.

G.8 Fencing and Access Control

Section G.8 is rescinded.

~~Access to soil/fill on the site must be controlled until final cover is placed to prevent direct contact with subgrade materials. To better control site access, obvious access points will be gated. All gates and existing fencing will be posted with "No Trespassing" signs. The majority of the site will be covered with clean fill or vegetated via hydroseeding to limit dust generation.~~

G.9 Property Use Limitations

The use of the property will be restricted through an environmental easement to which this Soil/Fill Management Plan will be attached.

G.10 Notification and Reporting Requirements

The following minimum notification and reporting requirements shall be followed by the property owner prior to and following site development, as appropriate:

- The NYSDEC and NYSDOH will be notified that subgrade activities are being initiated a minimum of five working days in advance of construction.
- A construction certification report stamped by a New York State licensed Professional Engineer will be prepared and submitted to the NYSDEC and NYSDOH within 90 days after development of each parcel or subparcel. At a minimum, the report will include:

H.3 Remedial Alternatives Report

The Remedial Action Report (RAR) for the Site was finalized in May 2006 to be implemented during the cleanup of the Former Incinerator Site.

"... a minimum of one foot of documented clean soil cover material."

According to the RAR, in order to eliminate potential exposure risks associated with direct contact with site fill material, the entire Site will be covered as part of site redevelopment. Where not paved or covered by new site structures, the Site will be covered with either pavement (asphalt or concrete) or a minimum of two feet of documented clean soil cover material. Excavation of the soil/fill, if necessary to attain proper grade, will be performed in accordance with the Soil/Fill Management Plan (Appendix H of the RAR). The cover system may be placed directly on top of the re-graded on-site fill material. Surface coverage over the entire redeveloped parcel or subparcel will be required by the Site owner as a pre-condition of reuse.

The proposed cover system has been designed to be protective of human health and the environment. The primary exposure pathway for contaminants at the Site (metals and polycyclic aromatic hydrocarbons) in soil is via direct contact. The proposed plan of covering the on-site fill material will eliminate the potential for direct contact with soil and is therefore protective of human health.

The Qualitative Risk Assessment performed as part of the Site Investigation (Malcolm Pirnie, 2005) evaluated the risk posed by chemicals of potential concern ("COPCs") to human health. The Risk Assessment also evaluated the adequacy of the cover system planned for placement during site redevelopment and determined that the above-described cover system would protect human health from these COPCs.

H.4 Summary of the Remedial Closure Design

H.4.1 Preparation of Site Surface

The clean soil cover material shall be placed on top of a demarcation layer of netting, landscape fabric or other material suitable for delineating the boundary between clean cover material and existing soil/fill.

The Site will require grading prior to cover placement activities, in accordance with the RAR and appended Soil/Fill Management Plan (SFMP). Any fill material will be graded to a regular topographic surface as planned for redevelopment. Any trees, shrubs, roots, brush, masonry, rubbish, scrap, debris, pavement, curbs, fences and miscellaneous structures will either be removed or disposed of off-site at a permitted disposal facility. Prior to placement of the cover system, all protruding material will be removed from the ground surface. Burning shall not be allowed on the Site.

H.4.2 Cover System

H.4.2.1 Soil

In areas that will not receive significant equipment or vehicular use, the cover system will be composed of soil fill from a NYSDEC-approved borrow source and tested in accordance with the Soil/Fill Management Plan and found to contain constituent concentrations less than those specified in NYSDEC TAGM 4046. The soil cover will be placed in accordance with the RAR.

"...in accordance with the Record of Decision (May 2006)."

It will be the responsibility of the Owner to annually verify that the soil cover has remained in good condition (e.g., grass or other vegetation is maintained) and sufficiently covers the soil/fill material at the Site (i.e., eroded areas are repaired and the soil cover is maintained). Certification as to this verification is included on the Site inspection form on Attachment A.

H.4.2.2 Asphalt

The cover system in areas that will remain as or become roads, sidewalks, and parking lots will consist of a minimum of two inches of asphalt that will be placed over the soil/fill material at the Site. The asphalt will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence, in accordance with the RAR. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a regular surface.

It will be the responsibility of the Owner to annually verify that the asphalt has remained in good condition and sufficiently covers the soil/fill material.

H.4.2.3 Concrete

The cover system in areas that will become structures will consist of a minimum of two inches of concrete that will be placed above the soil/fill material. The concrete will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a sufficient regular surface.

It will be the responsibility of the Owner to annually verify that the concrete has remained in good condition and sufficiently covers the soil/fill material at the Site as per Attachment A.

H.4.3 Erosion Control Measures

In accordance with the SFMP, design and permanent construction features shall be incorporated into the Site construction plans to control erosion. It will be the responsibility of the Owner to annually certify that storm water channel slopes, vegetation and any synthetic erosion control fabrics placed in such channels remain in good condition.

H.5 Inspection Procedures

The physical components of the cover system shall be inspected annually by a representative of Owner (or its delegated agent) qualified to carry out such inspections. The inspector should be, at minimum, a certified industrial hygienist or a person with a four-year college degree in environmental sciences. The inspection will be coordinated with facility personnel at least one week prior to ensure that most, if not all, of the paved areas will be accessible for inspection. Arrangements to repair those areas that the inspector requires to be maintained, if any, will be initiated as may be required by the inspector.

The annual inspection shall include, but not be limited to, those matters set forth on the Environmental Inspection Form, attached hereto as Attachment B. These inspection reports, which shall include a map that shows areas of damage or required maintenance, shall be kept on file by the Owner. If the inspections reveal that maintenance is necessary, then the Owner shall notify the NYSDEC, and arrange to complete the repairs. The NYSDEC shall be informed by Owner when repairs are complete.

H.6 Final Cover System Condition

The final cover system shall be observed by traversing the cover on foot and making appropriate observations, notes and photographic records as necessary, for inclusion with the report. It is anticipated that some maintenance activities will be necessary during the closure period. The following characteristics shall be looked for during the observation of the cover system and erosion control features:

- Sloughing.
- Cracks.
- Settlement (depression and puddles).
- Erosion features.
- Distressed vegetation/turf.

The following paragraphs describe actions that should be taken to address the conditions described above. Maintenance and repairs that are typically necessary during the closure period are also described.

H.6.1 Sloughing

Sloughing of the soil cover may occur. Areas where sloughing has occurred shall be repaired. Cover soil shall be placed in accordance with the requirements of the ~~RAR~~, and of the Soil/Fill Management Plan (SFMP).

"...in accordance with **the Record of Decision (May 2006).**"

Soil/Fill Management Protocols

APPENDIX**G**

The objective of this Soil/Fill Management Plan (SFMP) is to set guidelines for management of soil material during any activities, which would breach the cover system. The SFMP is a portion of the overall remedy, which addresses disturbance/use of any residually contaminated soil/fill left on the Site, after other elements of the remedy have been implemented. This SFMP addresses environmental concerns related to soil/fill management. This SFMP is not intended to serve as a design document for construction activities related to redevelopment activities. It is the developer's responsibility to prepare a design that incorporates the requirements for cover and soil management as set forth in this SFMP.

G.1 Excavation and Handling of On-Site Soil/Fill

No excavation, grading or disturbance of the final vegetated soil cover or existing subgrade soil/fill shall be initiated prior to a minimum of three working days notification to the NYSDEC Region 9, Division of Environmental Remediation. A Professional Engineer with remedial investigation experience, representing the subject property owner or developer will oversee soil/fill excavations or disturbances. The excavation activities will be conducted in accordance with the protocols detailed in Attachment I and in the sections below.

All on-site soil/fill will be presumed to contain metals and PAHs and will be handled in accordance with the provisions of this SFMP. Although the environmental site investigation has provided a characterization of the contamination, the nature of investigations does not allow for a 100 percent complete or accurate characterization. It is possible that some quantity of unsuspected contamination may be encountered during redevelopment activities. Therefore, as a safeguard for unknown or unsuspected contamination presence, during excavation, all soil/fill

will be visually inspected for staining and will be field screened for the presence of volatile organic compounds (VOCs). A photoionization detector (PID) will be used to check for VOCs. Visual observation will be sufficient to identify stained soils. Stained soil is soil that is discolored, tinted, dyed, unnaturally mottled, or exhibits a sheen. Attachment II (Standard Operating Procedures) contains an SOP for Soil Screening. Excavated soil/fill that is visibly stained or produces elevated PID readings (i.e., sustained 10 PPM or greater) will be considered potentially contaminated and stockpiled separately on-site for further assessment. The potentially contaminated soil/fill will be stockpiled (in maximum 100 cubic yard piles) on polyethylene sheeting and then sampled to determine its ultimate disposition; viz., reuse or off-site disposal. The stockpiled potentially contaminated soil/fill will also be completely covered using polyethylene sheeting to reduce particle runoff and entrain dust. Sampling and analysis will be completed in accordance with the protocols delineated in Section G.2. Soil/fill containing one or more constituents in excess of the site-specific action levels (SSALs) shown in Table G-1 will be transported off-site to a permitted waste management facility. Soil/fill awaiting analytical results or awaiting transportation will be stored continuously on-site under polyethylene sheeting.

Any soil/fill with a pH higher than 12.5 is considered hazardous and therefore must be properly disposed off-site. Additionally, any soil/fill with a pH greater than 9.0 but less than 12.5 may be reused on-site but only to fill in areas below grade. This soil/fill may not be used as backfill in utility trenches or to create berms or other above grade mounds. This soil/fill must also be covered with clean material in accordance with Section 9.3.2 of the RAR.

If buried drums or underground storage tanks are encountered during soil excavation activities, excavation will cease and the NYSDEC will be immediately notified. All drums and/or underground storage tanks encountered will be evaluated and the Owner will submit a removal plan for NYSDEC approval. Appropriately trained personnel will excavate all of the drums and/or underground storage tanks while following all applicable federal, state, and local regulations. Removed drums and underground storage tanks will be properly characterized and disposed off-site. The soil/fill surrounding the buried drums or underground storage tanks will be considered as potentially contaminated and will be stockpiled and characterized.

**TABLE G-1
SITE SPECIFIC ACTION LEVELS
SOIL/FILL MANAGEMENT PLAN
SIX VACANT LOTS ON RIDGE ROAD SITE
LACKAWANNA, NEW YORK**

Sample Location Sampling Depth (ft. bgs) Collection D	NYSDEC TAGM 4046 ⁽¹⁾	Eastern USA Background Concentrations ⁽²⁾	Maximum Concentration Detected ⁽³⁾	Average Concentration Detected	Frequency of Detections	Proposed Site Specific Action Level (SSAL)
TAL Inorganic Analytes (mg/kg)						
Cadmium	1.4	0.1 - 1	6.60	1.97	8 / 12	5
Chromium	14	1.4 - 40	1,360	426	8 / 12	1,000
Copper	31	1 - 50	65	38.9	12 / 12	100
Lead	400	200 - 500	427	191	12 / 12	500
Manganese	624	50 - 5,000	25,200	6,470	12 / 12	20,000
Mercury	0.1	0.001 - 0.2	0.323	0.16	12 / 12	1.0
Zinc	318	9 - 50	1,420	365	10 / 12	1,000
Pest/PCBs (µg/kg)						
Total Pesticides	10	NA	132.0	44	11 / 12	10,000
Total PCBs (Surface - 1.0')	1,000	NA	770	176	6 / 6	1,000
Total PCBs (Subsurface > 1.0')	10,000	NA	190	82	6 / 6	10,000
Semi-Volatile Organic Compounds - SVOCs (µg/kg)						
Total SVOCs	500,000	NA	123,820	38,900	12 / 18	500,000
Volatile Organic Compounds - VOCs (µg/kg)						
Total VOCs	10,000	NA	3,771.0	524.0	7 / 18	10,000

Notes:

- (1) New York State Dept. of Environmental Conservation TAGM 4046, Recommended Soil Cleanup Objectives, Dec. 2000.
 (2) TAL Inorganic Analytes from Eastern USA Background as shown in New York State Dept. of Environmental Conservation TAGM 4046, Dec. 2000.
 (3) Maximum concentration detected during subsurface investigation (MPI, April 2004), (LCS July 2004) and the Remedial Investigation (MPI,

NA - Not Available.

ND - Not Detected

All excavations or disturbances must be backfilled as soon as the work allows. Backfilled excavations must be covered with suitable cover material defined in Section 9.3.2 of the RAR within ten working days of backfilling or as otherwise approved by the NYSDEC.

If no evidence of additional contamination is encountered through the screening during excavation activities, the excavated soil fill will be stockpiled as appropriate on site. No special provisions for separate handling are required other than the characterization defined in Section G.2.

Excavated or disturbed backfill may be used as subgrade, excavation backfill or berm construction following characterization performed in accordance with Section G.2 if it meets the SSAL's presented in Table G-1.

G.2 Soil/Fill Sampling and Analysis Protocol

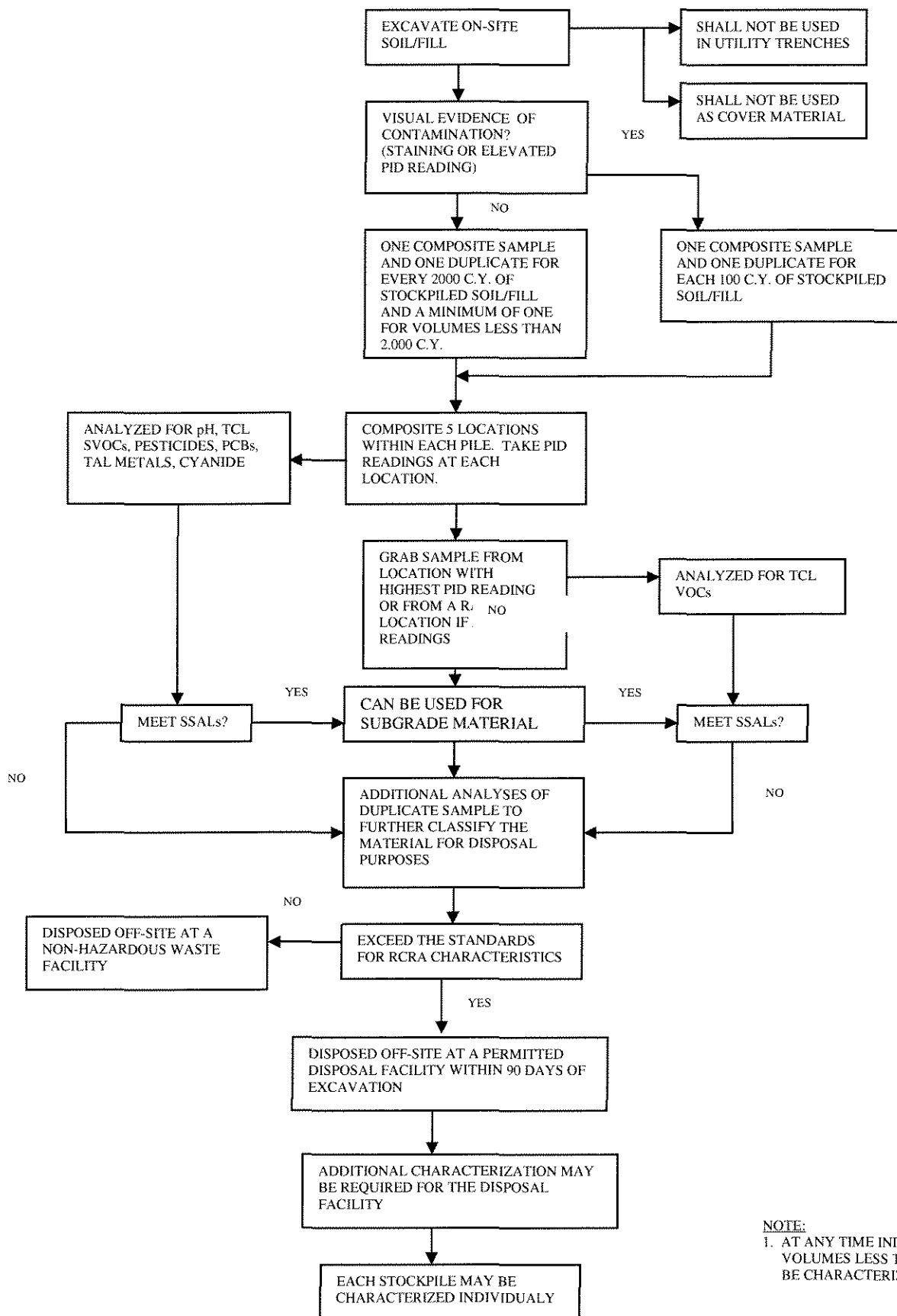
A soil/fill characterization flow chart is provided as Figure G-1. As stated in Section G.1, all excavated soil/fill that exhibits evidence of additional contamination through screening (staining or elevated PID measurements) will be stockpiled separately and sampled and classified for reuse or disposal. One composite soil sample will be collected for each 100 cubic yards of soil.

The composite sample will be collected in the manner described in the Standard Operating Procedures (SOPs) included in Attachment II from five locations within each stockpile. PID measurements will be recorded for each of the five composite sample locations, and one grab sample and one duplicate sample will be collected from the location with the highest PID measurement of the five composite locations. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for Target Compound List (TCL) semivolatile organic compounds (SVOCs), PCBs and pesticides, and the metals cadmium, chromium, copper, lead, manganese, mercury, and zinc using current NYSDEC Analytical Services Protocols (ASP). Additionally, the grab sample will be analyzed for TCL volatile organic compounds (VOCs).

Excavated soil/fill that exhibits no evidence of additional contamination (staining or elevated PID measurements) will also require characterization prior to use as subgrade or backfill at the site.

FIGURE G-1

SOIL/FILL CHARACTERIZATION FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

Characterization samples will be collected and analyzed at a frequency of not less than one sample for 2000 cubic yards of soil/fill, and a minimum of one sample will be collected for volumes less than 2000 cubic yards. The characterization samples will be collected in accordance with the protocols described above; the sampling efforts shall consist of discrete samples for VOCs and composite samples collected from five locations for the remaining analytes.

Any soil/fill that has been characterized and found to meet the SSALs may be reused as subgrade, excavation subgrade backfill, or for berm construction. If the analysis of the soil/fill samples reveals unacceptably high levels of any analytes (i.e., greater than one or more SSALs), additional analyses will be necessary to further classify the material for hazardous characteristics for disposal purposes. At a minimum, the duplicate sample will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) for the particular analytes that were detected at concentrations exceeding the SSALs. The duplicate sample may also be analyzed for RCRA Characteristics including reactivity, corrosivity, and ignitability. If the analytical results indicate that concentrations exceed the standards for either TCLP or RCRA Characteristic analysis, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation. Additional characterization sampling for off-site disposal may be required by the disposal facility. To potentially reduce off-site disposal requirements/costs, the owner or site developer may also choose to characterize each stockpile individually.

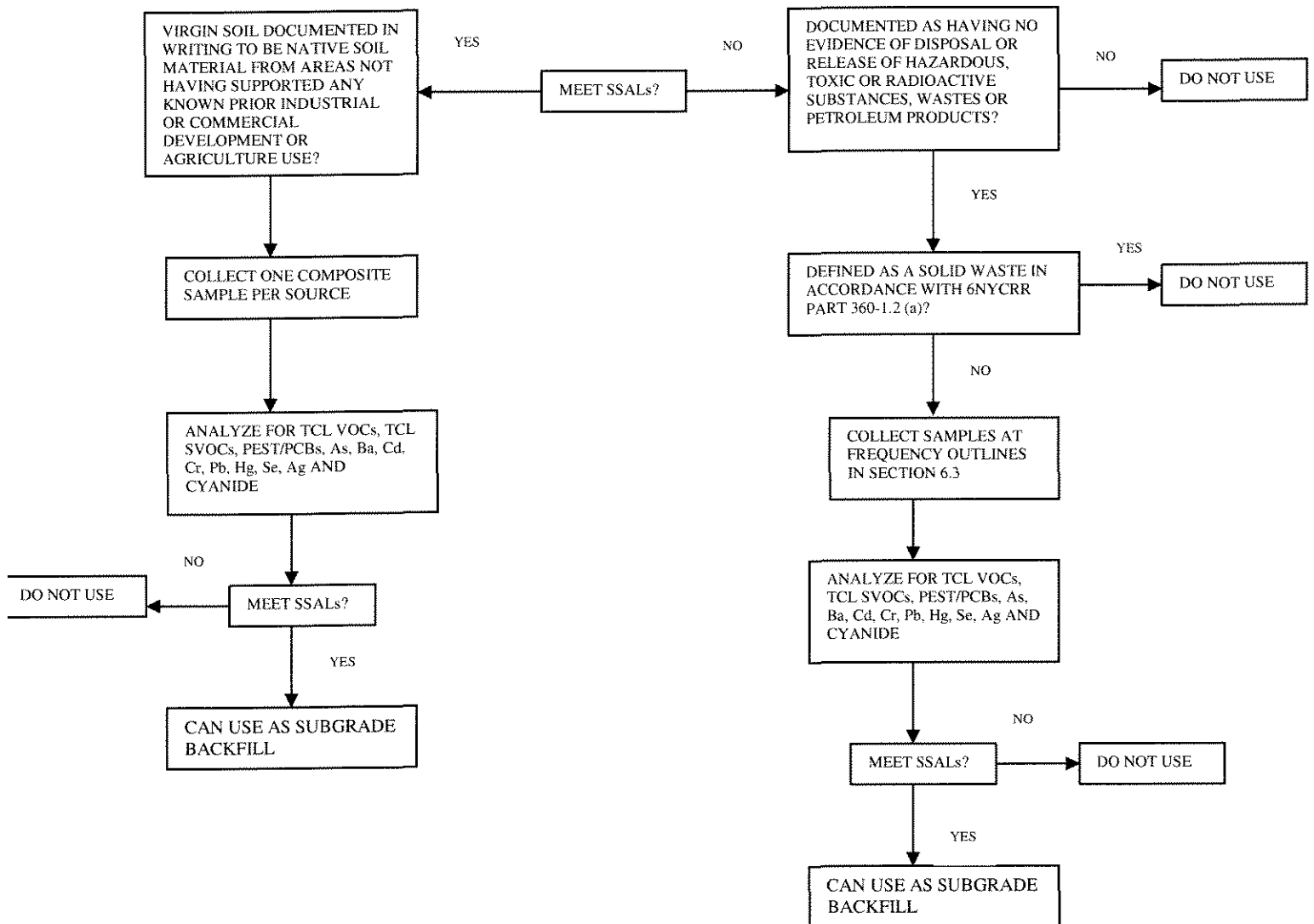
G.3 Subgrade Material

Subgrade material used to backfill excavations or placed to increase site grades or elevation shall meet the following criteria (see Figure G-2):

- Excavated on-site soil/fill shall either exhibit no evidence of contamination (staining and/or elevated PID measurements) or, if evidence of contamination is present, analytical results of the soil/fill indicate that the contaminants are present at concentrations below the SSALs.
- Off-site borrow soils will be documented as having originated from locations having no

FIGURE G-2

SUBGRADE MATERIAL FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a).
- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.
- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and the metals cadmium, chromium, copper, lead, manganese, mercury, and zinc. The soil will be acceptable for use as backfill provided that all parameters meet the SSALs.
- Non-virgin source area soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the SSALs, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs.

G.4 Final Cover

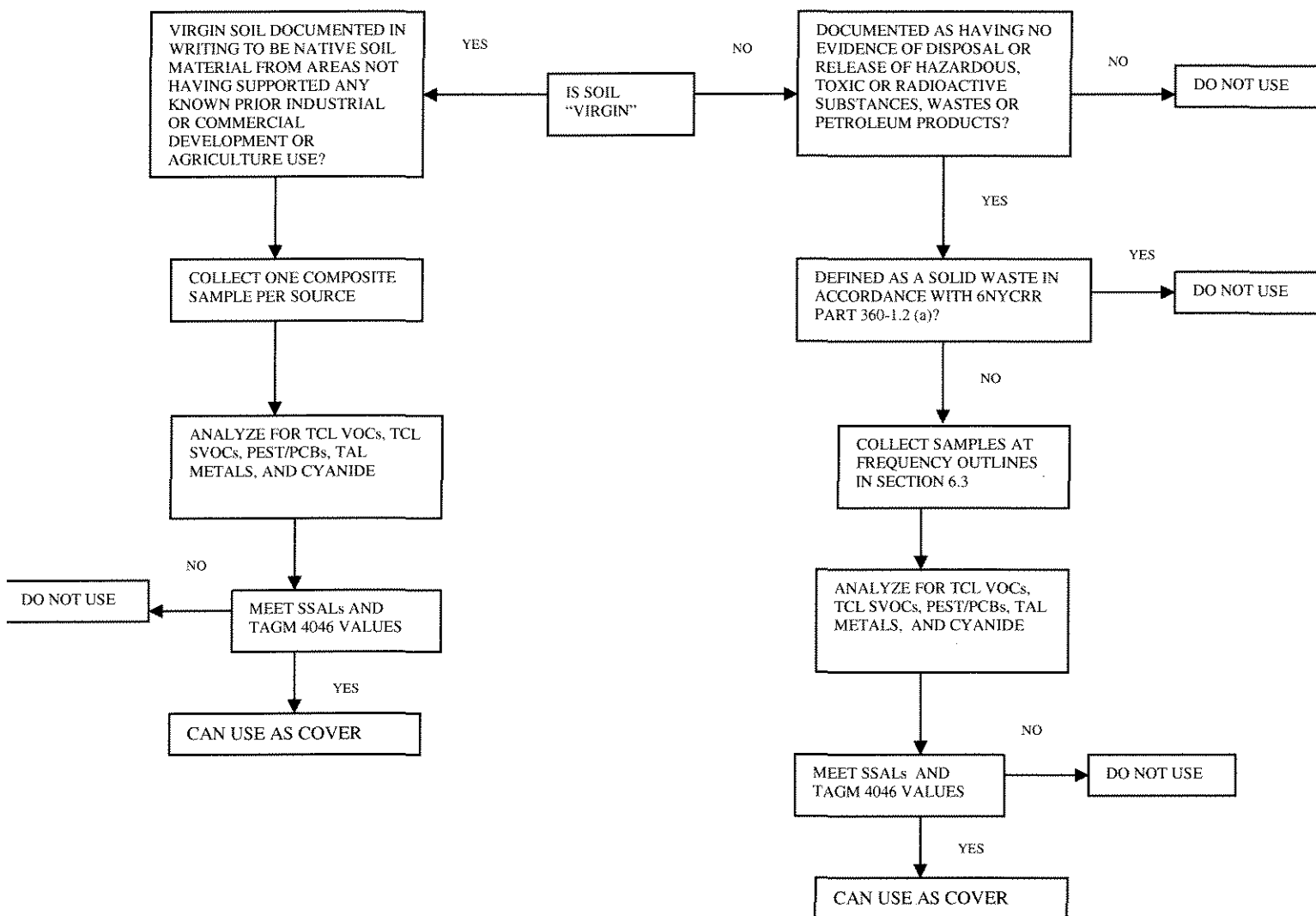
Surface coverage over the entire redeveloped parcel or subparcels will be required by the developer or owner as a pre-condition of occupancy. The purpose of the surface cover is to eliminate the potential for human contact with fill material. Surface coverage will consist of documented clean soil with vegetative cover, asphalt or concrete paving, or buildings with concrete floors.

The cover soil material shall meet the following criteria (see Figure G-3):

- Excavated on-site soil/fill shall not be used as cover material.
- Off-site borrow soils will be documented as having originated from locations having

FIGURE G-3

FINAL COVER MATERIAL FLOW CHART



NOTE:

1. AT ANY TIME INDIVIDUAL STOCKPILES OF VOLUMES LESS THAN THOSE STATED MAY BE CHARACTERIZED INDIVIDUALLY.

no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.

- Off-site soils intended for use as site cover cannot otherwise be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a).
- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.
- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the NYSDEC recommended soil cleanup objectives included in TAGM 4046.
- Non-virgin source area soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the TAGM 4046 criteria, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the TAGM 4046 criteria.
- To reduce the potential for disturbance of the soil cover material, berms or mounds composed of clean soil will be constructed in areas in which trees and shrubs will be planted.

G.5 Erosion Controls

G.5.1 General Guidelines

When site development or remedial actions require the disturbance of more than one acre of land, federal and state laws¹ require that the project obtain coverage Under the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities that are classified as “Associated with Industrial Activity”, Permit #GP-93-06 (Construction Storm Water General Permit). Requirements for coverage under the Construction Storm Water General Permit include the submittal of a Notice of Intent form and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must fulfill all permit requirements and must be prepared in accordance with "Chapter Four: the Storm Water Management and Erosion Control Plan" in Reducing Impacts of Storm Water Runoff from New Development, NYSDEC, 1992. This Storm Water Management and Erosion Control Plan, in accordance with permit requirements, will provide the following information:

- A background discussion of the scope of the construction project.
- A statement of the storm water management objectives.
- An evaluation of post-development runoff conditions.
- A description of proposed storm water control measures.
- A description of the type and frequency of maintenance activities required to support the control measure.

¹ The Federal Water Pollution Control Act (as amended, 33 U.S.C. 1251 et. Seq.) and the New York State Environmental Conservation Law: Article 17, Titles 7 and 8 and Article 70.

The SWPPP will address issues such as erosion prevention, sedimentation control, hydraulic loading, pollutant loading, ecological protection, physical site characteristics that impact design, and site management planning. The SWPP will also include a contingency plan to be implemented in the event of heavy rain events. All descriptions of proposed features and structures at the site will include a description of structure placement, supporting engineering data and calculations, construction scheduling, and references to established detailed design criteria. The SWPPP will conform to all requirements as established by applicable regulatory agencies.

Proven soil conservation practices will be incorporated in the construction and development plans to mitigate soil erosion damage, off-site sediment migration, and water pollution from erosion. These practices combine vegetative and structural measures. Many of these measures will be permanent in nature and become part of the completed construction project (design features such as drainage channels and grading). Other measures will be temporary and serve only during the construction stage. The contractor will remove temporary measures at the completion of construction. The selection of erosion and sediment control measures will be based on several general principles, including:

- The minimization of erosion through project design (maximum slopes, phased construction, etc.).
- The incorporation of temporary and permanent erosion control measures.
- The removal of sediment from sediment-laden storm water before it leaves the site.

The generic erosion and surface water control plan included in Attachment III details typical methods of erosion control that must be followed during site redevelopment activities. As described in Attachment III, a specific erosion and surface water control plan must be created prior to implementation of redevelopment activities. The use of appropriate temporary erosion control measures such as silt fencing and/or hay bales will be required around all soil/fill stockpiles and unvegetated soil surfaces during redevelopment activities. These methods are described below, and Attachment IV includes details for various erosion control measures that might be used during site redevelopment activities. Stockpiles shall be graded and compacted

as necessary for positive surface water runoff and dust control. Stockpiles of soil/fill will be placed a minimum of fifty feet from the boundaries.

G.5.2 Temporary and Permanent Erosion Control Measures

G.5.2.1 Temporary Measures

Temporary erosion and sedimentation control measures and facilities will be employed during active construction stages. Prior to any construction activity, temporary erosion and sediment control measures shall be installed and maintained until they are no longer needed, or until such time that permanent erosion control measures are installed and effective. Additional sediment control measures may also be necessary. Structural measures, as described below, will be designed and installed to provide the required sediment and erosion control. The following temporary measures will be incorporated into construction activities:

- Silt fencing.
- Straw bales.
- Temporary vegetation/mulching.

G.5.2.1.1 Silt Fencing

Regrading and capping activities may result in sheet flow to various areas of the site; therefore, silt fencing will be used as the primary sediment control measure. Prior to extensive clearing, grading, excavation, and placement of cover soils, silt fences will be installed along all construction perimeter areas to prevent sedimentation in low areas and drainage areas. The location and orientation of silt fencing to be used during redevelopment operations will be field determined. There may be breaks and overlaps in the silt fencing to allow construction vehicles access to the construction areas.

Intermediate silt fencing will be used upslope of perimeter areas where phased construction activities are occurring. This measure will effectively lower sheet flow velocities and reduce

sediment loads to perimeter fencing. In addition, silt fencing around soil stockpiles will be employed.

As sediment collects along the silt fences, they will be cleaned to maintain desired roval performance and prevent structural failure of the fence. Removed sediment will be disposed on-site as general fill in a designated area. The perimeter silt fences will remain in place until construction activities in the area are completed and vegetative cover or other erosion control measures are adequately established. Silt fences will be provided and installed in accordance with the details presented in Attachment IV.

G.5.2.1.2 Straw Bales

Straw bales will be used to intercept sediment-laden runoff from storm water channels as needed during various phases of construction. Additional straw bale dikes may be necessary in some areas during some phases of construction.

Use of straw bales will be limited to swales and/or diversion ditches where the anticipated flow velocity will not be greater than 5 feet per second (fps). Where flows may eventually exceed 5 fps along a swale or diversion ditch, an intermediate straw bale barrier will be installed upgradient of the final bale barrier. The intermediate bale barrier will effectively reduce flow velocities and sediment load to the final barrier.

As with the silt fencing, sediment will be removed to maintain performance and prevent overtopping or failure of the straw bale barrier. Removed sediment will be disposed of on-site as general fill in a designated area. Sediment laden straw bales that have lost their structural integrity and/or effectiveness will be disposed of off-site as a solid waste. Straw bale barriers will remain in place until construction activities contributing sediment to the barrier are complete and vegetative cover or other erosion control measures are adequately established. Straw bales will be provided and installed in accordance with the details presented in Attachment IV.

G.5.2.1.3 Temporary Vegetation and Mulching

As a result of phased construction and split construction schedule, portions of the site may be left in intermediate/incomplete conditions. Intermediate areas may include rough graded areas awaiting finer grading or areas awaiting topsoil placement. Intermediate areas where activities will not resume for a period in excess of two weeks shall be seeded with a quick germinating variety of grass or covered with a layer of straw mulch.

The temporary cover will act to stabilize the soil and reduce erosion. As construction progresses, areas containing temporary vegetation or straw mulch can be covered without removal of the temporary vegetation or mulch.

G.5.2.2 Permanent Control Measures

Permanent erosion control measures and facilities will be incorporated during cover construction and during site redevelopment for long-term erosion protection. Permanent measures and facilities will be installed as early as possible during construction phases. Parking and building systems associated with redevelopment shall not include dry wells or other subsurface injections/disposal piping or facilities.

G.5.2.2.1 Design Features

The remedial construction activities will involve the installation of cover system including asphalt, concrete, or clean fill over the entire site. Permanent erosion control measures incorporate a combination of design features to limit overall erosion and sediment problems to practical design limits, and the placement of permanent facilities during site restoration for long-term erosion protection. The soil cover system will be designed based on the following criteria:

- Maximum slope of 33% (3H: 1V) to limit erosion.
- Minimize the potential contact with, and migration of, waste fill.
- Provide a medium for the growth of vegetation to control erosion.

Design features incorporated into the construction plans to control erosion will include limiting steep slopes, routing runoff to surface water collection channels, limiting flow velocities in the collection channels to the extent practical, and lining collection channels, where appropriate. In areas where flow will be concentrated (i.e.; collection channels) the channel slopes and configuration will be designed to maintain channel stability.

G.5.2.2.2 Construction Features

Any final slopes greater than 25 percent will be reinforced or have a demarcation layer under the clean cover to indicate if erosion has extended into the subgrade. Following the placement of final cover soils over regraded areas, a revegetation program will be implemented to establish permanent vegetation. Vegetation serves to reduce erosion, enhance evapotranspiration, and improve runoff water quality. The areas to be grassed will be seeded in stages as construction is completed with 70 lbs./acre of seed conforming to the mix included in section 9.3.2 of the RAR. In addition to the above seed mixture, mulch, mulch blankets, or synthetic fabric will be placed to prevent erosion during turf establishment. Mulch will be placed on all slopes less than 15% and a mulch blanket on all slopes greater than 15%. Synthetic erosion control fabric will be placed in drainage ditches and swales. As an aid to turf establishment, seeded areas will be fertilized with a starter fertilizer.

G.6 Dust Controls

The surface of unvegetated or disturbed soil/fill areas will be wetted at all times with water or other dust suppressive agents to control dust during construction. There shall be no visible dust generated during redevelopment activities. Any subgrade material left exposed during extended interim periods (greater than 90 days) prior to placement of final cover shall be covered with a temporary cover system (i.e., tarps, spray type cover system, etc.) or planted with vegetation to control fugitive dust to the extent practicable. Particulate monitoring will be performed along the downwind occupied perimeter of parcels during subgrade excavation, grading, and handling activities in accordance with the Community Air Monitoring Plan.

Dust suppression techniques will be employed at the site in accordance with NYSDEC TAGM 4031 (Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites). This TAGM describes guidance for dust monitoring, and includes a list of effective dust suppression techniques. Dust monitoring is more fully described in Section G.12.2 (Community Air Monitoring Program). As per TAGM 4031, dust suppression techniques that may be used at the site include applying water on roadways, wetting equipment, spraying water on buckets during excavation and dumping, hauling materials in properly covered or watertight containers, covering excavated areas and material after excavation activity ceases, establishing vegetative cover immediately after placement of cover soil, and reducing the excavation size and/or number of excavations.

G.7 Construction Water Management

Pumping of water (i.e., groundwater and/or storm water that has accumulated in an excavation) from excavations, if necessary, will be done in such a manner as to prevent the migration of particulates, soil/fill, or unsolidified concrete materials, and to prevent damage to the existing subgrade. Water pumped from excavations will be managed properly in accordance with all applicable regulations so as to prevent endangerment of public health, property, or any portion of the construction.

The groundwater in excavations will be field screened for VOCs and observed for any noticeable sheens. Water in the excavations will not be discharged to the ground surface if:

- Staining or PID measurements above background are observed in the excavation, or
- A sheen is present on the water surface.

If any of these conditions exist, the water pumped from the excavations will be containerized and analyzed in accordance with the Surface Water and Groundwater quality Standards set forth in 6 NYCRR Part 703.5 and the local sewer authority discharge permit. If the water meets the surface water and groundwater quality standards, it may be discharged to the ground surface. If the water does not meet the surface water and groundwater quality standards, it may

be discharged to the local sewer authority under a discharge permit. If the water quality is such that the local sewer authority discharge permit requirements will be exceeded, or the local sewer authority will not approve the discharge to a sewer, it will be transported off-site for proper disposal or treated on-site via a treatment system that has been approved by NYSDEC.

Runoff from surface discharges shall be controlled. No discharges shall enter a surface water body without proper permits.

G.8 Fencing and Access Control

Access to soil/fill on the site must be controlled until final cover is placed to prevent direct contact with subgrade materials. To better control site access, obvious access points will be gated. All gates and existing fencing will be posted with “No Trespassing” signs. The majority of the site will be covered with clean fill or vegetated via hydroseeding to limit dust generation.

G.9 Property Use Limitations

The use of the property will be restricted through an environmental easement to which this Soil/Fill Management Plan will be attached.

G.10 Notification and Reporting Requirements

The following minimum notification and reporting requirements shall be followed by the property owner prior to and following site development, as appropriate:

- The NYSDEC and NYSDOH will be notified that subgrade activities are being initiated a minimum of five working days in advance of construction.
- A construction certification report stamped by a New York State licensed Professional Engineer will be prepared and submitted to the NYSDEC and NYSDOH within 90 days after development of each parcel or subparcel. At a minimum, the report will include:

- An area map showing the parcel or subparcel that was developed and the property's tax map number.
- A topographic map of the developed property showing actual building locations and dimensions, roads, parking areas, utility locations, berms, fences, property lines, sidewalks, green areas, contours and other pertinent improvements and features. The topographic map will be stamped by a New York State licensed surveyor.
- Plans showing areas and depth of fill removal.
- Description of erosion control measures.
- A text narrative describing the excavation activities performed, health and safety monitoring performed (both site specified and Community Air Monitoring), quantities and locations of soil/fill excavated, disposal locations for the soil/fill, soil sampling locations and results, a description of any problems encountered, location and acceptability test results for backfill sources, and other pertinent information necessary to document that the site activities were carried out properly.
- Plans showing before and after survey elevations on a 100-foot grid system to document the thickness of the clean soil cover system.
- A certification that all work was performed in conformance with the SFMP.

G.11 Quality Assurance and Quality Control (QA/QC)

G.11.1 Analytical Methods

All site soil/fill characterization samples collected during site redevelopment activities will be analyzed using EPA-approved analytical methods using the most recent edition of the EPA's "Test Methods for Evaluating Solid Waste" (SW-846). Methods for Chemical Analysis of Water and Wastes "(EPA 600/4-79-020), Standard Methods for Examination of Waste and Wastewater" (prepared and published jointly by the American Public Health Association, American Waterworks Association and Water Pollution Control Federation).

G.11.2 Laboratory

The laboratory proposed to perform the analyses will be certified through the New York State Department of Health Environmental Laboratory Approval Program (ELAP) to perform Contract Laboratory Program (CLP) analysis and Solid Waste and Hazardous Waste Analytical testing on all media to be sampled during this investigation. The laboratory will maintain this certification for the duration of the project.

G.11.3 Data Submittal

The laboratory will perform the analysis of samples in accordance with the most recent NYSDEC Analytical Services Protocol (ASP). Analytical data will be submitted in complete ASP Category B data packs including documentation of laboratory QA/QC procedures that will provide legally defensible data in a court of law. If requested, the Category B data packs will be submitted to the NYSDEC.

Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and corrective actions shall be followed as per SW-846 and as per the laboratory's Quality Assurance Plan. Where appropriate, trip blanks, field blanks, field duplicates, and matrix spike, matrix spike duplicate shall be performed at a rate of 10% and will be used to assess the quality of the data. The laboratory's in-house QA/QC limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

G.11.4 Data Usability Summary Reports

After receipt of analytical results, the data package will be sent to a qualified, third party, data validation specialist for evaluation. A Data Usability Summary Report (DUSR) will be prepared. The DUSR will provide a determination of whether or not the data meets the project specific criteria for data quality and data use.

G.12 Health and Safety Procedures for Intrusive or Maintenance Activities

G.12.1 Construction Personnel Protection

Contractors engaged in subsurface (invasive) construction or maintenance activities (e.g., foundation and utility workers) will be required to implement appropriate health and safety procedures. These procedures will involve, at a minimum, donning adequate personal protective equipment, performing appropriate air monitoring, and implementing other engineering controls as necessary to mitigate potential ingestion, inhalation and contact with residual constituents in the soils. A site-specific, activity-specific health and safety plan must be prepared by the contractor prior to on-site construction activities. Recommended health and safety procedures include the following:

- While conducting invasive work at the site, the Contractor shall provide working conditions on each operation that shall be as safe and healthful as the nature of that operation permits. The Contractor shall comply with all New York State Department of Labor regulations and published recommendations and regulations promulgated under the Federal Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, as amended, and with laws, rules, and regulations of other authorities having jurisdiction. Compliance with governmental requirements is mandated by law and considered only a minimum level of safety performance. The Contractor shall insure that all work is performed in accordance with recognized safe work practices.
- The Contractor shall be responsible for the safety of the Contractor's employees, the public and all other persons at or about the site of the work. The Contractor shall be solely responsible for the adequacy and safety of all construction methods, materials, equipment and the safe prosecution of the work.
- The Contractor shall have a written health and safety plan (HASP) prepared, signed and sealed by a safety professional; a safety professional and/or a trained safety representative(s) active on the job whenever the work is in progress; an effective and documented safety training program; and a safety work method check list system.

- The Contractor shall stop work whenever a work procedure or a condition at a work site is deemed unsafe by the safety professional or his trained safety representative(s).
- The Contractor shall employ a properly qualified safety professional whose duties shall be to initiate, review and implement measures for the protection of health and prevention of accidents. The Contractor shall also employ safety representative(s) whose duties, working under the direct supervision of the safety professional, shall include the implementation the safety program for the work at the site.
- Recognition as a safety professional shall be based on a minimum of certification by the Board of Certified Safety Professionals as a Certified Safety Professional and 5 years of professional safety management experience in the types of construction and conditions expected to be encountered on the site.
- The safety representative(s) who will work under the direction of the safety professional will have appropriate qualifications. The required qualifications shall include a minimum of: five years of relevant construction experience, two years of which were exclusively in construction safety management; successful completion of a 30-hour OSHA Construction Safety and Health training course; 40-hour training as per 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response; and, if confined space entry is required, training as per 29 CFR 1910.146, Permit-Required Confined Spaces.
- The safety professional shall visit and audit all work areas as often as necessary but at least once each week and shall be available for consultation whenever necessary.
- The safety representative(s) must be at the job site full-time (a minimum of 8 hours per working day) whenever intrusive work is in progress. When multiple shift work is in progress more than one safety representative may be required.
- The safety professional and his safety representative(s) shall be responsible for ensuring Contractor compliance with governing laws, rules and regulations as well as of good safety practice.
- The safety staff shall maintain and keep available safety records, up-to-date copies of all pertinent safety rules and regulations, Material Safety Data Sheets, and the Contractors' site specific health and safety plans (HASPs) and the site emergency response plan with emergency and telephone contacts for supportive actions.

- The responsible safety professional shall sign and seal the Contractor's written site-specific HASP and the Plan shall be available to workers on site. The Contractor shall provide copies of the HASP to the Contractors' insurer, if required.
- The HASP will identify and define the following: the hazards anticipated for each major invasive task; the engineering, administrative and/or personal protective equipment control measures that will be implemented; the surveillance methods, and schedules of both walk through surveys and in-depth safety audits to be performed on site; medical monitoring and screening methods; the Contractors' pre-start-up and continuous safety-training program; emergency response equipment, notification, training and procedures; and include copies of safety inspection check-off sheets, specific to the work methods and crews performing work at the various job locations, to be used on a regular basis in evaluating the site and work methods.
- The safety professional and/or his trained safety representative(s) shall as a minimum:
 - Schedule and conduct safety meetings and safety training programs as required by law, the health and safety plan, and good safety practice. A specific schedule of dates of these meetings and an outline of materials to be covered shall be provided with the health and safety plan. All employees shall be instructed on the recognition of hazards, observance of precautions, of the contents of the health and safety plan and the use of protective and emergency equipment.
 - Determine that operators of specific equipment are qualified by training and/or experience before they are allowed to operate such equipment.
 - Develop and implement emergency response procedures. Post the name, address and hours of the nearest medical doctor, name and address of nearby clinics and hospitals, and the telephone numbers of the appropriate ambulance service, fire, and the police department.
 - Post all appropriate notices regarding safety and health regulations at locations that afford maximum exposure to all personnel at the job site.
 - Post appropriate instructions and warning signs in regard to all hazardous areas or conditions that cannot be eliminated. Identification of these areas shall be based on

experience, on site surveillance, and severity of hazard. Such signs shall not be used in place of appropriate workplace controls.

- Ascertain by personal inspection that all safety rules and regulations are enforced. Make inspections at least once a shift to ensure that all machines, tools and equipment are in a safe operating condition; and that all work areas are free of hazards. Take necessary and timely corrective actions to eliminate all unsafe acts and/or conditions, and submit to the Engineer each day a copy of his findings on the inspection check list report forms established in the health and safety plan.
- Provide safety training and orientation to authorized visitors to ensure their safety while occupying the job site.
- Perform all related tasks necessary to achieve the highest degree of safety that the nature of the work permits.
- The Contractor shall have proper safety and rescue equipment, adequately maintained and readily available, for foreseeable contingencies. This equipment may include such applicable items as: proper fire extinguishers, first aid supplies, safety ropes and harnesses, stretchers, water safety devices, oxygen breathing apparatus, resuscitators, gas detectors, oxygen deficiency indicators, combustible gas detectors, etc. This equipment should be kept in protected areas and checked at scheduled intervals. A log shall be maintained indicating who checked the equipment, when it was checked, and that it was acceptable. This equipment log shall be updated monthly and be submitted with the monthly report. Equipment that requires calibration shall have copies of dated calibration certificates on site. Substitute safety and rescue equipment must be provided while primary equipment is being serviced or calibrated.
- All personnel employed by the Contractor or his subcontractors or any visitors whenever entering the job site, shall be required to wear appropriate personal protection equipment required for that area. The Contractor may remove from the site any person who fails to comply with this or any other safety requirement.
- Because water with elevated pH may act as a skin irritant, care must be taken to inhibit dermal contact when handling any groundwater at the site. Actions to inhibit contact with groundwater may include the use of latex or other waterproof gloves by on-site workers.

G.12.2 Community Air Monitoring Program

Ambient air monitoring will be conducted by the Professional Engineer monitoring the work on a real-time basis during all subsurface construction activities using a minimum of a photoionization detector and a dust meter. Battery charge level for each instrument will be checked at the beginning and end of each day. The instruments will be calibrated at a frequency recommended by the manufacturer. All air monitoring readings will be recorded in a logbook and will be available for review by the NYSDEC and New York State Department of Health (NYSDOH).

Baseline conditions will be measured at proposed intrusive activity locations prior to commencement of operations. Air quality within the work zone will be monitored in accordance with the site-specific health and safety plan created by the site developer or contractor. In addition to monitoring the work area for worker health and safety, volatile organic compounds will be monitored at the downwind perimeter of the work area every hour. If downwind perimeter organic vapor levels exceed five parts per million (ppm) above the upwind work area perimeter concentrations, the Vapor Emission Response Plan will be implemented.

As described in Section G.6, appropriate dust suppression techniques will be employed at all times during site redevelopment activities. Using a dust meter, particulates will be continuously monitored immediately downwind in the work area and integrated over a period not to exceed 15 minutes. If the downwind particulate level is more than 150 ug/m^3 , then upwind (background) levels must be measured immediately. If the downwind levels are more than 100 ug/m^3 above background, additional dust suppression measures must be taken.

G.12.1.1 Vapor Emission Response Plan

If the downwind area perimeter air concentrations of organic vapors exceed the upwind work area perimeter concentration by 5 ppm but less than 25 ppm, the following actions will be taken:

- Every 30 minutes monitor the perimeter work area location.
- Every 30 minutes monitor the organic vapor concentration 200 feet downwind of the work area perimeter or half the distance to the nearest receptor, whichever is less. If this reading exceeds the perimeter work area upwind organic vapor concentration by 5 ppm, all work must halt and monitoring increased to every 15 minutes. If, at any time, this reading exceeds the perimeter work area upwind concentration by 10 ppm, the Major Vapor Emissions Response Plan will be initiated.
- If organic vapor levels 200 feet downwind of the perimeter work area or half the distance to the nearest downwind receptor, whichever is less, exceeds by 5 ppm the work area perimeter upwind concentration persistently, then air quality monitoring must be performed within 20 feet of the nearest downwind receptor (20-foot zone). If the readings in the 20-foot zone exceed the perimeter work area upwind concentration by 5 ppm for more than 30 minutes, then the Major Vapor Emissions Response Plan will be implemented.
- Work activities can resume only after the downwind 200-foot reading and the 20-foot zone reading are less than 5 ppm above the perimeter work area upwind concentration. In addition, the downwind perimeter work area concentration must be less than 25 ppm above the perimeter work area upwind concentration.

G.12.2.2 Major Vapor Emission Response Plan

If the downwind work area perimeter organic vapor concentration exceeds the upwind work area perimeter concentration by more than 25 ppm, then the Major Vapor Emission Response Plan will be activated. Upon activation, the following activities will be undertaken:

1. All work will halt.
2. All Emergency Response Contacts as listed in the Health and Safety Plan will be contacted.

3. The NYSDEC, NYSDOH, and the Erie County Health Department will be notified and advised of the situation.
4. The local police and fire department authorities will immediately be contacted by the Safety Officer and advised of the situation.
5. Frequent air monitoring will be conducted at 30-minute intervals within the 20-Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer and work may resume.

ATTACHMENT I

**EXCAVATION AND HANDLING OF
POTENTIALLY CONTAMINATED SOIL/FILL**

EXCAVATION AND HANDLING OF POTENTIALLY CONTAMINATED SOIL/FILL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. Provide all labor, materials, equipment and incidentals required to perform all excavating, backfilling, filling and grading, and disposing of soil/fill materials as required for construction of structures, manholes, vaults, conduits, pipelines, roads, and other facilities.
2. Stockpile and characterize soil/fill in which evidence of contamination (staining, odors, elevated pH and/or elevated photoionization detector measurements) is observed. Stained soil is soil that is discolored, tinted, dyed, unnaturally mottled, or contains a sheen.
3. Prepare all waste disposal applications and shipping manifests and make all arrangements for transportation and disposal of contaminated material.

1.2 QUALITY ASSURANCE

A. Permits and Regulations:

1. Obtain all necessary permits for work in roads, rights-of-way, railroads, etc. Also obtain permits as required by local, state and federal agencies for discharging water from excavations.
2. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

B. Reference Standards: Comply with applicable provisions and recommendations of the following.

1. OSHA Standard, Title 29, Code of Federal Regulations, Part 1926, Section .650 (Subpart P - Excavations).

1.3 SUBMITTALS

A. No excavation, grading or disturbance of the final vegetated soil over or existing subgrade soil/fill shall be initiated prior to a minimum of five working days written notification to the NYSDEC Region 9, Division of Environmental Remediation. The notification will include a description of planned excavation activities and protective measures, and the name of the site supervisor.

B. Provide waste manifests, bills of lading, certified weight scale tickets, or other transportation records for soil/fill material removed from the site, to the NYSDEC, if requested.

- C. Test Reports – Characterization of Soil/Fill and Borrow Materials:
1. Provide NYSDEC analytical results, if requested, for the following :
 - a. Tests of soil/fill with evidence of contamination of material removed during excavation.
 - b. Tests, if necessary, of off-site material that will be used as fill or cover material at the site.

1.4 JOB CONDITIONS

- A. Subsurface Information: Refer to Remedial Work Plan and previous investigation reports on subsurface conditions. Data is not intended as a representation or warranty of continuity of conditions between soil borings nor of groundwater levels at dates and times other than date and time when measured.
- B. Existing Structures and Utilities: Due to site history, underground structures and utilities may be present in the area of the Former Railyard.
1. CONTRACTOR may need to explore ahead of the required excavation to determine the exact location of all structures and utilities.
 2. Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during all operations.
 3. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult piping or utility owner immediately for directions as to procedure. Cooperate with utility owner in keeping services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
 4. Should underground storage tanks or drums be encountered, the CONTRACTOR shall notify the NYSDEC immediately. The CONTRACTOR shall also take appropriate measures to protect the health and safety of on-site workers. Any tanks or drums encountered shall be evaluated to the satisfaction of the NYSDEC and properly closed in place or removed and properly disposed.
 5. Should foundations be encountered, the CONTRACTOR shall either remove the foundation in areas necessary to complete the work or modify the work to accommodate the foundations.
- D. Protection of Persons and Property: Barricade open excavations occurring as part of the work and post with warning lights, if necessary. Operate warning lights, if necessary, during hours from dusk to dawn each day and as otherwise required.
1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
- E. Dust Control: Conduct all operations and maintain areas of activity, including sweeping and sprinkling of roadways, to minimize creation and dispersion of dust.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 -EXECUTION

3.1 INSPECTION

- A. Provide NYSDEC with sufficient notice and with means to examine the areas and conditions under which excavating, filling, and grading are occurring.

3.2 SITE PREPARATION

- A. Clear all areas to be excavated of all trees, brush, roots, stumps, logs, wood and other materials and debris. All contaminated waste materials shall be removed from site and properly disposed. Burning will not be permitted unless permitted by the appropriate authorities.
- B. If cover material was previously placed in the area to be excavated, the cover material may be stripped from the surface and stockpiled separately for reuse.

3.3 TEST PITS

- A. CONTRACTOR may, if necessary, excavate and backfill, in advance of construction, test pits to determine conditions or location of existing facilities. The test pit operations will be conducted in accordance with the excavation procedures outlined below.

3.4 EXCAVATION

- A. Perform all excavation required to complete the work as necessary. Excavations shall include earth, sand, clay, gravel, hardpan, boulders not requiring drilling and blasting for removal, decomposed rock, pavements, rubbish and all other materials within the excavation limits.
- B. All work shall be completed in accordance with all air quality standards as determined by applicable federal, state, and local regulations.
- C. Excavations for structures and utilities shall be open excavations. Provide excavation protection system(s) required by ordinances, codes, law and regulations to prevent injury to workmen and to prevent damage to new and existing structures or pipelines. Unless shown or specified otherwise, protection system(s) shall be utilized under the following conditions.
 - 1. Excavation Less Than 5 Feet Deep: Excavations in stable rock or in soil conditions where there is no potential for a cave-in may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.
 - 2. Excavations More Than 5 Feet Deep: Excavations in stable rock may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded or shored and braced.

3. All excavations or disturbances must be covered using appropriate cover material within 10 working days of backfilling or as otherwise approved by the NYSDEC.
- D. Pumping of water from excavations, if necessary, shall be done in such a manner to prevent the carrying away of particulates, soil/fill, or unsolidified concrete materials, and to prevent damage to the existing subgrade.
1. Water from the excavations will be disposed properly in accordance with all applicable regulations in such a manner as not to endanger public health, property, or any portion of the work under construction or completed.
 2. In areas of high pH, the pH of the water in excavations will be measured using a field pH meter. Based on the groundwater analytical results, water in the excavations may be discharged to the ground surface unless staining or elevated PID measurements are observed in the excavation, a sheen is present on the water surface or if pH is less than 6.5 or greater than 8.5. If any of these conditions exist, the water pumped from the excavations will be containerized or may be discharged to the Buffalo Sewer Authority under a discharge permit if the water quality falls within the conditions of the permit. If the water quality is such that the permit requirements will be exceeded, the groundwater removed from the excavation will be containerized and sampled. Containerized water not meeting the Surface Water and Groundwater Quality Standards set forth in 6 NYCRR Part 703.5 will be transported off-site for proper disposal.
- E. Utility Trench Preparation:
1. No more than 200 feet of trench may be opened in advance of utility laying.
 2. Trench width shall be minimized to greatest extent practical but shall conform to the following:
 - a. Sufficient to provide room for installing, jointing and inspecting utilities.
 - b. Enlargements at pipe joints may be made if required.
 - c. Sufficient for shoring and bracing, or shielding and dewatering.
 - d. Sufficient to allow thorough compaction of backfill adjacent to bottom half of utility.
 - e. Do not use excavating equipment that requires the trench to be excavated to excessive width or depth.

Field Screening of Excavated Materials:

1. The soil/fill removed during excavation will be inspected for staining and will be field screened for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID).
2. Excavated soil/fill with no evidence of contamination (no staining or elevated PID measurements) may be used as subgrade or excavation subgrade backfill. However, soils with high pH (8.5 to 12.5) will not be used as backfill in utility trenches or as subsurface material in the construction of berms.
3. Excavated soil/fill that is visibly stained or produces elevated PID readings (i.e., sustained 10 ppm or greater) will be considered potentially contaminated soil/fill. Potentially contaminated soil/fill will be stockpiled on polyethylene

sheeting and then sampled for reuse, treatment or disposal.

- a. Sampling and analysis of soil/fill exhibiting staining and/or elevated PID measurements will be completed in accordance with the protocols delineated in the Soil/Fill Management Plan (S/FMP). Sampling and analysis will also be completed in accordance with the requirements of the disposal facility at which the soil/fill with concentrations of contaminants above the site-specific action levels (SSALs) will be disposed.
- b. Soil/fill containing one or more constituents in excess of SSALs in the S/FMP will be transported off-site to a permitted waste management facility.
- c. Excavated or disturbed soil/fill that has been analyzed and found to meet SSALs may be used as subgrade or excavation subgrade backfill.

F. Material Storage:

1. Stockpile soil/fill with no evidence of contamination (no staining or elevated PID measurements) in approved areas in approximately 50 cubic yard piles, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
 - a. Locate and retain soil materials away from edge of excavations.
 - b. Dispose of excess soil material and waste materials appropriately.
2. Stockpile soil/fill with evidence of contamination (staining and/or elevated PID measurements) in approved areas in approximately 50 cubic yard piles, until sample analysis is completed. Place, grade and shape stockpiles for proper drainage. Ensure effective weather proofing of potentially contaminate soil stockpiles.
 - a. Locate and retain soil materials away from edge of excavations.
 - b. The stockpiled soil/fill will be placed on top of and be completely covered using polyethylene sheeting with a minimum thickness of 8-mil to reduce the infiltration of precipitation and the entrainment of dust. A berm wall shall be constructed around the stockpile using uncontaminated material covered with the same sheeting as the stockpiled material. The stockpile area shall be protected from stormwater runoff. Edges of the sheeting shall overlap a minimum of two feet and duct tape shall be applied along all seams to prevent movement of sheeting and infiltration of precipitation into the stockpiled soil. Non-soil weights (e.g. tires) may be necessary to inhibit movement of the cover sheeting by wind.

H. Sample Collection and Analysis:

1. Collect a minimum of one composite sample, and one duplicate sample using five grab samples per 100 cubic yards of potentially contaminated soil as described in the Soil/Fill Management Plan. The characterization samples should be collected from stockpiled potentially contaminated soil/fill within five days of excavation.
2. Engage the services of a NYSDOH ELAP certified analytical laboratory to analyze samples in order to determine the proper handling and disposal of potentially contaminated soil/fill material as listed below.

3. Required Analyses:
 - a. Target Compound List (TCL) Volatile Organic Compounds (VOCs) by New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) 95-1.
 - b. TCL Semivolatile Organic Compounds (SVOCs) by NYSDEC ASP 95-2.
 - c. TCL pesticides and polychlorinated benzenes (PCBs) by NYSDEC ASP (95-3).
 - d. Target Analyte List (TAL) metals and cyanide by NYSDEC ASP.
 - e. pH by SW-846 Method 9045.
4. If contaminants are present at concentrations above the SSALs, additional analysis will be required by the disposal facility and will likely include:
 - a. Toxicity Leaching Characteristic Procedure (TCLP)
 - b. RCRA Characteristics (Ignitability, Corrosivity, and Reactivity).

3.5 LOADING AND TRANSPORTING

- A. Furnish all labor, materials, equipment, and incidentals required to load and transport all contaminated soil/fill from the site.
- B. Notify the NYSDEC in writing when loading of contaminated soil/fill will occur and include the name and location of the disposal facility to be used. Submit to the NYSDEC, if requested, a full description of the disposal facility, licenses, permits, and compliance status.
- C. Do not load and transport contaminated soil and debris until receipt of approval from the disposal facility that the contaminated soil and debris will be disposed in.
- D. Conduct all loading and transportation activities in accordance with all applicable federal, state, and local regulations, including but not limited to United States Department of Transportation and USEPA regulations 40 CFR 172-179.
- E. Conduct all loading activities to minimize the formation of dust.
- F. Obtain and comply with the required permits and authorization for transportation of contaminated soil and debris in accordance with State and local jurisdictions. The contaminated soil and debris shall be transported by a licensed waste hauler.
- G. All trucks transporting contaminated soil and debris for off-site disposal shall be lined, covered, and secured in accordance with all federal, State, and local regulations. Any liner that cannot be decontaminated shall be disposed of with the contaminated soil and debris. Trucks used for transportation of contaminated soil and debris shall travel on authorized roads in accordance with all federal, state and local regulations.
- H. Contaminated soil and debris shall be transported for disposal in containers that are watertight. Leaking containers shall be unloaded at the site and any leaked liquids cleaned up as spills.

- I. Contaminated soil and debris transport containers shall be covered to prevent release of dust and particulates and exposure of the contaminated soil and debris to precipitation.
- J. Employ a temporary transport vehicle pad for vehicle loading operations to control and contain contaminated soil and debris spillage.
- K. Inspect and clean loaded transport vehicle tires and undercarriage to remove any adhering contaminated soil and debris prior to vehicle departure from the site.

3.6 DISPOSAL OF EXCAVATED MATERIALS

- A. Soil/Fill with concentrations of contaminants above the SSALs will be disposed off-site within 90 days of excavation at an appropriate, permitted disposal facility.
- B. Prepare all applications for waste disposal at appropriate disposal facilities and waste transportation and disposal manifests and any other documents necessary for the off-site disposal of contaminated soil/fill material. Submit waste transportation and disposal documentation to the NYSDEC, if requested.
- C. Prepare a waste transportation and disposal manifest, and all other documents required for waste shipment, for each load of waste material that is transported from the site.
- D. Maintain a waste disposal log on-site containing pertinent waste disposal information. If requested, the NYSDEC on-site representative may review the log.

3.7 SOIL/FILL COVER SYSTEM

- A. Backfill all excavations as promptly as work permits.
- B. Replace cover material within 10 days of backfilling excavations. The cover material shall be consistent with and will be placed in accordance with the Remedial Work Plan.
- C. If working conditions require the excavation to remain open for a period greater than ten days, plastic or metal sheeting will be used to cover the entire or portions of the excavation during periods of inactivity.

+ + END OF SECTION + +

ATTACHMENT II

STANDARD OPERATING PROCEDURES

Appendix ____: Item ____ - SCREENING OF SOIL/FILL SAMPLES FOR
ORGANIC VAPORS

Applicability: GENERAL Revision No.: _____ Date: _____

Prepared By: PIM Date: _____ Approved By: _____ Date: _____

1.0 INTRODUCTION

This guideline presents a method for screening soil samples. During soil/fill excavation activities, a photoionization detection (PID) or flame ionization detector (FID) will be used to monitor the excavated soils. The monitoring results provide criteria for sampling of soil potentially impacted by volatile organic substances.

2.0 METHODOLOGY

1. During excavation, the excavated soil will be examined for visually contaminated (stained) soils. If present, these areas will be sampled first. If no staining is observed, collect samples from each stockpile at random locations.
2. Place the sample in a labeled wide-mouthed glass jar. Seal the jar with aluminum foil and a screw top cap.
 - a. Keep these samples at as near to 70°F as possible.
 - b. Check head space of each sample for any organic vapor present by inserting the probe of the PID through the aluminum foil seal.
 - c. The soil sample from each excavation location will be noted where VOA's were detected and removal of the contaminated soil will be coordinated per project requirements.

Appendix ____: Item ____ - SCREENING OF SOIL/FILL SAMPLES FOR
ORGANIC VAPORS

Applicability: GENERAL Revision No.: _____ Date: _____

Prepared By: PIM Date: _____ Approved By: _____ Date: _____

3.0 EQUIPMENT REQUIREMENTS

- 40 ml. precleaned and prelabeled glass VOA vials with teflon-lined septum caps.
- Ice and ice chest.
- Wide mouthed glass jars with screw caps
- Aluminum foil.
- Photoionization detector.

024.1

Appendix ____: Item ____ - COMPOSITE SAMPLE PROCEDURE FOR
NON-VOLATILE ORGANICS ANALYSIS

Applicability: _____ Revision No.: _____ Date: _____

Prepared By: _____ Date: _____ Approved By: _____ Date: _____

1.0 INTRODUCTION

This guideline addresses the procedure to be used when soil samples are to be composited in the field.

2.0 METHODOLOGY

1. Transfer equal portions of soil from individual split-spoon samples to a large precleaned stainless steel (or Pyrex glass) mixing bowl.
2. Thoroughly mix (homogenize) and break up the soil using a stainless steel scoop or trowel.
3. Spread the composite sample evenly on a stainless steel tray and quarter the sample.
4. Discard alternate (i.e. diagonal) quarters and, using a small stainless steel scoop or spatula, collect equal portions of subsample from the remaining two (2) quarters until the amount required for the composite sample is acquired. Transfer these subsamples to a precleaned stainless steel (or glass Pyrex) mixing bowl and re-mix.
5. Transfer the composite sample to an appropriate precleaned jars provided by the laboratory and label. Store any excess sample from the stainless steel tray in separate, precleaned, sample containers, and submit to the laboratory for holding in case additional analysis is necessary.
6. Decontaminate all stainless steel (or glass Pyrex) trays, spoons, spatulas, and bowls in accordance with the sampling equipment decontamination procedure provided.

074

ATTACHMENT III
GENERIC EROSION AND SURFACE WATER CONTROL PLAN

GENERIC EROSION AND SURFACE WATER CONTROL PLAN

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. Provide all labor, materials, equipment and incidentals required to perform all excavating, backfilling, filling and grading, for construction of structures, manholes, vaults, conduits, pipelines, roads, and other facilities and all related sediment and erosion controls as specified herein.
2. Provide positive means of erosion control, such as shallow ditches (see "New York Guidelines for Urban Erosion and Sediment Control" Third Printing 10/91 USDA – Soil Conservation Service), around work areas to remove surface drainage water from excavated areas. Pumping of water from excavations, if necessary, shall be done in such a manner to prevent the carrying away of particulates, soil/fill, or unsolidified concrete materials, and to prevent damage to the existing subgrade.
3. Water from the excavations will be disposed properly in accordance with all applicable regulations in such a manner as not to endanger public health, property, or any portion of the work under construction or completed. Based on groundwater analytical results for samples collected at the Site, water may be discharged to the ground surface unless staining or elevated PID measurements are observed in the excavation or a sheen is present on the water surface. If any of these conditions exist the water removed from the excavation will be containerized and sampled. Any groundwater not meeting NYSDEC Ambient Water Quality and Guidance Values will be transported and disposed off-site.

1.2 QUALITY ASSURANCE

A. Permits and Regulations:

1. Obtain all necessary permits for work in roads, rights-of-way, railroads, etc. Also obtain permits as required by local, state and federal agencies for discharging water from excavations.
2. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

B. Reference Standards: Comply with applicable provisions and recommendations of the following.

1. NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) SPDES General Permit for Storm Water Discharges from Construction Activities (Permit Number GP-93-06).
2. SOIL AND WATER CONSERVATION SOCIETY (SWCS) - EMPIRE STATE CHAPTER 1991 (or latest version) New York Guidelines for Urban Erosion and Sediment Control.

3. CODES, RULES, AND REGULATIONS OF THE STATE OF NEW YORK
6 NYCRR Part 700 Definitions, Samples and Tests.
4. 6 NYCRR Part 364 Waste Transporter Permits.
5. OSHA Standard, Title 29, Code of Federal Regulations, Part 1926, Section .650
(Subpart P - Excavations).

1.3 SUBMITTALS

- A. The Contractor shall prepare a written Work Plan that details the Contractor's operations and includes all activities that relate to the soil excavation (i.e., excavation plan, sampling plan, etc.). The Work Plan must detail erosion control methods and surface water management procedures that will be implemented by the Contractor throughout the work. The Work Plan shall include:
1. Procedures for excavating, handling, storing and transporting off-site contaminated soils, hazardous soils and concrete debris including a contingency plan detailing procedures and methods to be employed at no additional cost to prevent, contain, and recover spills during the work.
 2. Description of equipment to be used on site with appropriate safety devices needed to undertake the remediation of the site.
 3. Identification of permits required to conduct the work.
 4. Worksite layout showing, at a minimum, equipment and material staging areas, trailers, decontamination station, and staging procedures.
 5. Identification of proposed haul routes for wastes and backfill.
 6. Detailed construction drawing(s) of the proposed decontamination station.
 7. Provisions for control and prevention of surface runoff.
 8. Procedures and provisions for control of fugitive air emissions and dust control.
 9. Detailed work schedule for all tasks to fulfill the project.
 10. Other requirements necessary to provide security, staging, sampling, testing, removal, and disposal of wastes.
 11. Procedures and provisions for traffic control on public right of ways and private properties.
 12. Procedures and provisions for site winterization, if necessary.
 13. Procedures for collecting, storing, and disposing of decontamination water and other contaminated water generated during the work.
 14. Methods and equipment to be used for compaction of fill materials backfilled in the excavated areas.

1.3.1. STORM WATER MANAGEMENT AND EROSION CONTROL PLAN (SWECP)

- A. A SWECP will be included in the Work Plan. The SWECP shall follow guidelines for structure and content contained in SPDES-GP-93-06, Appendix F. The SWECP shall include:
1. Information regarding site background, description of work, analysis of site limitations for storm water facilities, and potential impact to natural resources.
 2. All calculations and assumptions used for the sizing and siting of proposed temporary erosion and sedimentation control facilities.

3. Information regarding maintenance needs and safety considerations of storm water management and erosion and sediment control facilities.
4. Description of the staging of erosion and sedimentation control facilities and construction activities.
5. Description of winterization provisions, if necessary.

1.3.1.1 Storm Water Management Guidelines

- A. Control and prevent surface runoff into remediation areas.
- B. Control and prevent surface runoff from contaminating a clean area, or recontaminating an area that has been excavated to remove all soil above the cleanup goals. In the event surface runoff is the cause of existing clean areas, or subsequently cleaned areas, becoming contaminated, the affected areas shall be cleaned in accordance with the Remedial Work Plan.

1.3.1.2 Erosion and Sediment Control Guidelines

- A. Existing vegetation on the project site shall be retained and protected to minimize soil loss on the project site and to minimize erosion control costs.
- B. Sediment control practices and measures, where necessary, shall be designed to protect the natural character of rivers, streams, lakes, coastal waters or other waterbodies in the vicinity of the site and minimize erosion and sedimentation off-site from the start of land disturbance activities to completion of the project.
 1. The off-site impacts of erosion and sedimentation related to land clearing, grading and construction activities shall not be any greater during and following land disturbance activities than under pre-mobilization conditions.
 2. Pursuant to 6NYCRR Part 700.
 - a. Toxic and other deleterious substances shall not be discharged in amounts that will adversely affect the taste, color or odor thereof, or impair the waters of the state for their classified usages.
 - b. Suspended, colloidal and settleable solids shall not be discharged in amounts that cause substantial visible contrast to natural conditions, or causes deposition or impairs the waters for their classified usages.
 3. Stream reaches downstream of construction areas shall not have substantial visible contrast relative to color, taste, odor, turbidity and sediment deposition from the reaches upstream of the construction area. Impacts such as these which result from construction or developmental activities are a violation of 6 NYCRR Part 700 water quality standards and may be subject to enforcement actions.

- C. Erosion and sediment control measures shall be constructed in accordance with an erosion and sediment control plan. The plan shall:
 - 1. Describe the temporary structural and vegetative measures that will be used to control erosion and sedimentation for each stage of the project from land clearing to the finished stage.
 - 2. Provide a map showing the location of erosion and sediment control measures.
 - 3. Provide an implementation schedule for staging temporary and permanent erosion and sediment control facilities.
 - 4. Provide a maintenance schedule for soil and sediment control facilities and describe maintenance activities to be performed.
- D. Erosion and sediment control measures shall be constructed prior to beginning any other land disturbances. The devices shall not be removed until the disturbed land areas are stabilized.
- E. Guidance:
 - 1. Grading: Perimeter grading shall blend with adjoining properties.
 - 2. Vegetative Protection: Where protection of trees or other vegetation is required, the location of the site to be protected shall be shown on the erosion control plan. The method of protecting vegetation during construction shall conform to the design criteria in SWCS.
 - 3. Drainage Control:
 - a. Surface runoff that is relatively clean and sediment free shall be diverted or otherwise prevented from flowing through areas of construction activity on the project site.
 - b. An approved temporary sediment control structure or permanent storm water management structure shall not be created which causes water to pond off-site on adjacent property, without first having obtained ownership or permanent easement for such use from the owner of the off-site or adjacent property.
 - c. Natural drainage channels shall not be altered or relocated without the proper approvals. Pursuant to ECL Article 15 a protected stream and the bed and banks thereof shall not be altered or relocated without the approval of the NYSDEC.
 - d. Runoff from any land disturbing activity shall not be discharged or have the potential to be discharged off-site or into storm drains or into watercourses unless such discharge is directed through a properly designed, installed and maintained structure, such as a sediment trap, to retain sediment on-site. Accumulated sediment shall be removed when 60 percent of the storage capacity of the sediment retention structure is filled with sediment.
 - e. To limit the potential for migration of water with high pH from the site, clay plugs will be installed in the utility corridors at a maximum spacing of 100 feet.
 - f. For finished grading, adequate gradients shall be provided so as to prevent water from standing on the surface of lawns for more than 24 hours after

- the end of a rainfall, except in a swale flow area which may drain as long as 48 hours after the end of rainfall.
- g. Permanent swales or other points of concentrated water flow shall be stabilized with sod, rip rap, paving, or covered with an approved erosion control matting as provided for in the design criteria in SWCS.
 - h. Surface flows over cut and fill slopes shall be controlled as provided for in the design criteria for vegetating waterways in SWCS.
5. Stream protection:
- a. The bed and banks of all on-site and off-site streams that may be impacted by land clearing, grading, and construction activities shall be protected to prevent stream, river, lake or coastal sedimentation, streambank erosion, stream enlargement and degradation or loss of fisheries habitat. Measures for protecting the bed and banks of a stream include: riprap, log cribbing, and vegetative measures.
6. Maintenance:
- a. An erosion control plan for the project site shall identify maintenance requirements for erosion and sediment control practices utilized, and it shall provide a maintenance schedule. All erosion and sediment control measures shall be inspected periodically and maintained in conformance with the schedule so as to ensure they remain in effective, operating condition until such times as they are removed.
 - b. All points of construction ingress and egress shall be protected to prevent the deposition of materials onto traversed public thoroughfare, either by installing and maintaining a stabilized construction entrance, or by washing all vehicle wheels in a safe disposal area. All materials deposited onto public thoroughfares shall be removed immediately. Proper precautions shall be taken to ensure that materials deposited onto public thoroughfares are removed so that they do not enter catch basins, storm sewers, or combined sewers.
 - c. Accumulated sediment shall be removed when 60 percent of the storage capacity of the retention structure is filled with sediment.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 -EXECUTION

- A. The Contractor will provide NYSDEC with sufficient notice and means to examine the areas and conditions under which excavating, filling, and grading are occurring.
- B. The Contractor shall strictly adhere to the provisions of the Work Plan and shall control and manage surface water in every area where his/her activities take place.

- C. The Contractor shall plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
 - 1. Hold the areas of bare soil exposed at one time to a minimum.
 - 2. Provide temporary control measures such as berms, dikes and drains.
- D. Construct fills and waste areas by selective placement to eliminate surface silts or clays, which will erode.
- E. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.
- F. Surface water from known areas of contamination shall be collected prior to leaving those areas and properly disposed following all applicable state and federal regulations.
- G. In the event that surface runoff is the cause of existing clean areas, or subsequently cleaned areas, becoming contaminated, the affected areas shall be cleaned in accordance with the Remedial Work Plan.
- H. Groundwater that is visibly flowing from the excavation shall be collected at each exit point and properly disposed following all applicable state and federal regulations.

+ + END OF SECTION + +

ATTACHMENT IV
EROSION CONTROL DETAILS

STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE

Definition

A temporary barrier of straw or similar material used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a bale dike is to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes are to be used for no more than three (3) months.

Conditions Where Practice Applies

The straw bale dike is used where:

1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainage way above the barrier.
3. Erosion would occur in the form of sheet erosion.

4. Length of slope above the straw bale dike does not exceed these limits:

Constructed Slope	Percent Slope	Slope Length (feet)
2:1	50	25
2 - 1/2:1	40	50
3:1	33	75
3 - 1/2:1	30	100
4:1	25	125

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage area in this instance shall be less than one acre and the length of slope above the dike shall be less than 200 feet.

Design Criteria

A design is not required. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 4.3 on page 4.10 or details.

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition

A temporary barrier of geotextile fabric (filter cloth) used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used.

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence are:

Slope Steepness	Maximum Slope Length (Ft)
2:1	50
3:1	75
4:1	125
5:1	175
Flatter than 5:1	200

2. Maximum drainage area for overland flow to a silt fence shall not exceed 1/2 acre per 100 feet of fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required. All silt fences shall be placed as close to the area as possible, and the area below the fence must be undisturbed or stabilized.

A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:

1. The type, size, and spacing of fence posts.
2. The size of woven wire support fences. (OPTIONAL)
3. The type of filter cloth used.
4. The method of anchoring the filter cloth.
5. The method of fastening the filter cloth to the fencing support.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. See Figure 4.4 on page 4.12 for details.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance. Statewide acceptability shall depend on in field and/or laboratory observations and evaluations.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.
3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14-1/2 gage with a maximum 6 in. mesh opening, or as approved. (OPTIONAL)
4. Prefabricated Units: Envirofence or approved equal may be used in lieu of the above method providing the unit is installed per manufacturer's instructions.

STANDARD AND SPECIFICATION FOR TEMPORARY SWALE

Definition

A temporary excavated drainage way.

Purpose

The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies

Temporary Swales are constructed:

1. To divert flows from a disturbed area.
2. Intermittently across disturbed areas to shorten overland flow distances.
3. To direct sediment laden water along the base of slopes to a trapping device.
4. To transport offsite flows across disturbed areas such as rights-of-way.

Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 4.5 on page 4.14 for details.

Drainage Area	Swale A <5 Ac	Swale B 5-10 Ac
Bottom Width of Flow Channel	4 ft	6 ft
Depth of Flow Channel	1 ft	1 ft
Side Slopes	2:1 or Flatter	2:1 or Flatter
Grade	0.5% Min. 20% Max.	0.5% Min. 20% Max.

For drainage areas larger than 10 acres, refer to the Standard and Specifications for Waterways on page 4.91.

Stabilization

Stabilization of the swale shall be completed within 10 days of installation in accordance with the appropriate standard and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year. The flow channel shall be stabilized as per the following criteria:

Type of Treatment	Channel Grade	FLOW CHANNEL	
		A <5 Ac	B 5-10 Ac
1	0.5-3.0%	Seed & Straw Mulch	Seed & Straw Mulch
2	3.1-5.0%	Seed & Straw Mulch	Seed and cover with Jute or Excelsior; Sod, or lined with 2 in. stone
3	5.1-8.0%	Seed and cover with Jute or Excelsior, Sod line with 2 in. stone	Line with 4-8 in. stone or Recycled Concrete Equivalent
4	8.1-20%	Line with 4-8 in. stone or Recycled Concrete Equivalent ¹	Engineering Design

In highly erodible soils, as defined by local approving agency, refer to the next higher slope grade for type of stabilization.

¹ Recycled Concrete Equivalent shall be concrete broken into the required size, and shall contain no steel reinforcement.

Outlet

Swale shall have an outlet that functions with a minimum of erosion, and dissipates runoff velocity prior to discharge off the site.

Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin until the drainage area above the swale is adequately stabilized.

The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

If swale is used to divert flows from entering a disturbed area, a sediment trapping device may not be needed.

**STANDARD AND SPECIFICATIONS
FOR
PERIMETER DIKE/SWALE**

Definition

A temporary ridge of soil excavated from an adjoining swale located along the perimeter of the site or disturbed area.

Purpose

The purpose of a perimeter dike/swale is to prevent off site storm runoff from entering a disturbed area and to prevent sediment laden storm runoff from leaving the construction site or disturbed area.

Conditions Where Practice Applies

Perimeter dike/swale is constructed to divert flows from entering a disturbed area, or along tops of slopes to prevent flows from eroding the slope, or along base of slopes to direct sediment laden flows to a trapping device.

The perimeter dike/swale shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 4.16 on page 4.34 for details.

The perimeter dike/swale shall not be constructed outside the property lines without obtaining legal easements from affected adjacent property owners. A design is not required for perimeter dike/swale. The following criteria shall be used:

Drainage area - Less than 2 acres (for drainage areas larger than 2 acres but less than 10 acres see earth dike; for drainage areas larger than 10 acres, see standard and

specifications for diversion).

Height - 18 inches minimum from bottom of swale to top of dike evenly divided between dike height and swale depth.

Bottom width of dike - 2 feet minimum.

Width of swale - 2 feet minimum.

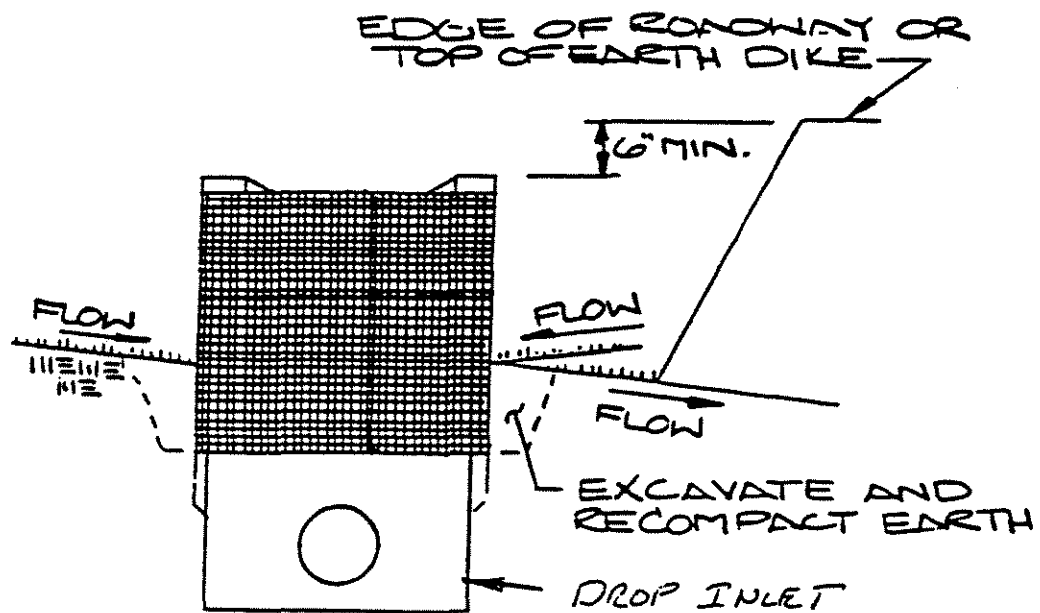
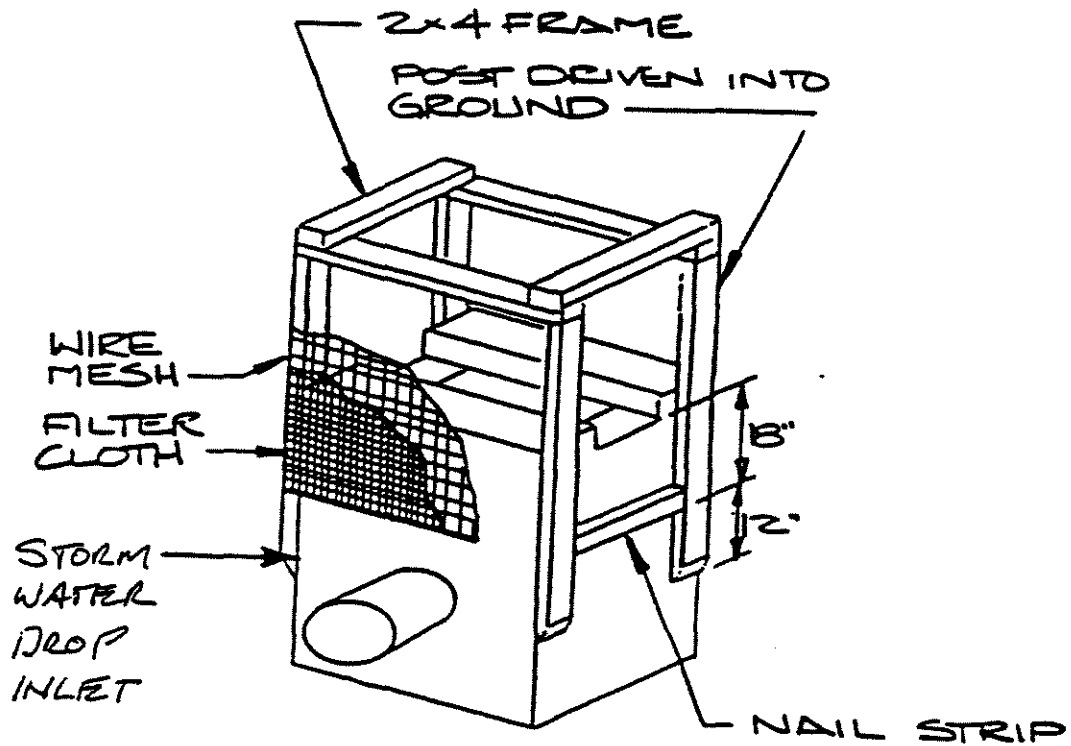
Grade - Dependent upon topography, but shall have positive drainage (sufficient grade to drain) to an adequate outlet. Maximum allowable grade not to exceed 20 percent.

Stabilization - The disturbed area of the dike and swale shall be stabilized within 10 days of installation, in accordance with the standard and specifications for seed and straw mulch or straw mulch only if not in the seeding season.

Outlet

1. Perimeter dike/swale shall have an outlet that functions with a minimum of erosion.
2. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area.
3. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap, sediment basin, or to an area protected by any of these practices.
4. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet.

SEDIMENT TRAP FOR DROP INLETS



Operation Monitoring and Maintenance Plan

Appendix

H

Operation, Monitoring and Maintenance Work Plan

APPENDIX**H**

H.1 Introduction

This Operation, Monitoring and Maintenance (OM&M) Work Plan has been prepared for the Six Vacant Lots on Ridge Road Site in Lackawanna, New York (the Site). The Site was investigated under the New York State Clean Water/Clean Air Bond Act – Environmental Restoration Program and a USEPA Brownfields assessment grant. After completion of the site investigation, a Remedial Action Report (RAR) was prepared. The RAR recommended limited removal of chromium-impacted soil/fill at two areas of the Site. This work was subsequently completed, see appendix I. Also, because elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals were present in the rest of the on-site soil/fill material, capping of the Site as part of its redevelopment was recommended as well as implementation of a soil/fill management plan. In conjunction with the capping remedy, it is recommended that the Site owner maintains the institutional and physical components of the cover using prescribed procedures acceptable to the regulatory agency (the NYSDEC). This OM&M Work Plan describes the conditions and procedures for maintaining the physical components of the Site remedy and is recommended as part of the overall Site cleanup.

The owner of the Site should evaluate the criteria presented in this plan and should recommend changes to the NYSDEC, as appropriate, depending on actual post-closure Site conditions. As a minimum, this plan should be reviewed annually during the post-closure period and updated when necessary.

Prior to initiation of the OM&M Work Plan, the Owner shall prepare and submit appropriate organizational documents to the Regulator for review and approval. The organizational documents shall include:

- An organizational chart outlining the responsible parties personnel (with qualifications) who will be responsible for implementing the post-closure operation, maintenance and monitoring program.
- A health and safety plan.
- Example inspection report forms.
- A schedule for the annual inspections and reporting.

H.2 Background

The 0.77 acres Site includes six vacant lots identified with addresses of 113, 117, 121, 125, 129, and 135 Ridge Road in Lackawanna, Erie County, New York. The Site is a rectangular shaped vacant lot covered with grass and gravel, with no aboveground structures. Occasional partial foundations of previous structures and concrete walkways are partially exposed at the ground surface.

A review of historical records indicates that the former on-site structures were constructed primarily between 1915 and 1927 and that the buildings were mainly two story brick framed structures that fronted Ridge Road and Wasson Avenue, and several single story wood-framed and stone structures at the rear of the main structures or along the southern property boundary. These buildings were used for a variety of commercial activities including a bakery, jeweler, men's clothing store, restaurants and a tin shop. Based on the review of City directories and the Sanborn Maps[®], it is believed that many of the buildings existed until the late 1960's, at which time they were demolished, however this could not be verified. The City of Lackawanna acquired the properties in the late 1970's. No known environmental studies have been performed at the Site.

H.3 Remedial Alternatives Report

The Remedial Action Report (RAR) for the Site was finalized in May 2006 to be implemented during the cleanup of the Former Incinerator Site.

According to the RAR, in order to eliminate potential exposure risks associated with direct contact with site fill material, the entire Site will be covered as part of site redevelopment. Where not paved or covered by new site structures, the Site will be covered with either pavement (asphalt or concrete) or a minimum of two feet of documented clean soil cover material. Excavation of the soil/fill, if necessary to attain proper grade, will be performed in accordance with the Soil/Fill Management Plan (Appendix H of the RAR). The cover system may be placed directly on top of the re-graded on-site fill material. Surface coverage over the entire redeveloped parcel or subparcel will be required by the Site owner as a pre-condition of reuse.

The proposed cover system has been designed to be protective of human health and the environment. The primary exposure pathway for contaminants at the Site (metals and polycyclic aromatic hydrocarbons) in soil is via direct contact. The proposed plan of covering the on-site fill material will eliminate the potential for direct contact with soil and is therefore protective of human health.

The Qualitative Risk Assessment performed as part of the Site Investigation (Malcolm Pirnie, 2005) evaluated the risk posed by chemicals of potential concern (“COPCs”) to human health. The Risk Assessment also evaluated the adequacy of the cover system planned for placement during site redevelopment and determined that the above-described cover system would protect human health from these COPCs.

H.4 Summary of the Remedial Closure Design

H.4.1 Preparation of Site Surface

The Site will require grading prior to cover placement activities, in accordance with the RAR and appended Soil/Fill Management Plan (SFMP). Any fill material will be graded to a regular topographic surface as planned for redevelopment. Any trees, shrubs, roots, brush, masonry, rubbish, scrap, debris, pavement, curbs, fences and miscellaneous structures will either be removed or disposed of off-site at a permitted disposal facility. Prior to placement of the cover system, all protruding material will be removed from the ground surface. Burning shall not be allowed on the Site.

H.4.2 Cover System

H.4.2.1 Soil

In areas that will not receive significant equipment or vehicular use, the cover system will be composed of soil fill from a NYSDEC-approved borrow source and tested in accordance with the Soil/Fill Management Plan and found to contain constituent concentrations less than those specified in NYSDEC TAGM 4046. The soil cover will be placed in accordance with the RAR.

It will be the responsibility of the Owner to annually verify that the soil cover has remained in good condition (e.g., grass or other vegetation is maintained) and sufficiently covers the soil/fill material at the Site (i.e., eroded areas are repaired and the soil cover is maintained). Certification as to this verification is included on the Site inspection form on Attachment A.

H.4.2.2 Asphalt

The cover system in areas that will remain as or become roads, sidewalks, and parking lots will consist of a minimum of two inches of asphalt that will be placed over the soil/fill material at the Site. The asphalt will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence, in accordance with the RAR. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a regular surface.

It will be the responsibility of the Owner to annually verify that the asphalt has remained in good condition and sufficiently covers the soil/fill material.

H.4.2.3 Concrete

The cover system in areas that will become structures will consist of a minimum of two inches of concrete that will be placed above the soil/fill material. The concrete will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a sufficient regular surface.

It will be the responsibility of the Owner to annually verify that the concrete has remained in good condition and sufficiently covers the soil/fill material at the Site as per Attachment A.

H.4.3 Erosion Control Measures

In accordance with the SFMP, design and permanent construction features shall be incorporated into the Site construction plans to control erosion. It will be the responsibility of the Owner to annually certify that storm water channel slopes, vegetation and any synthetic erosion control fabrics placed in such channels remain in good condition.

H.5 Inspection Procedures

The physical components of the cover system shall be inspected annually by a representative of Owner (or its delegated agent) qualified to carry out such inspections. The inspector should be, at minimum, a certified industrial hygienist or a person with a four-year college degree in environmental sciences. The inspection will be coordinated with facility personnel at least one week prior to ensure that most, if not all, of the paved areas will be accessible for inspection. Arrangements to repair those areas that the inspector requires to be maintained, if any, will be initiated as may be required by the inspector.

The annual inspection shall include, but not be limited to, those matters set forth on the Environmental Inspection Form, attached hereto as Attachment B. These inspection reports, which shall include a map that shows areas of damage or required maintenance, shall be kept on file by the Owner. If the inspections reveal that maintenance is necessary, then the Owner shall notify the NYSDEC, and arrange to complete the repairs. The NYSDEC shall be informed by Owner when repairs are complete.

H.6 Final Cover System Condition

The final cover system shall be observed by traversing the cover on foot and making appropriate observations, notes and photographic records as necessary, for inclusion with the report. It is anticipated that some maintenance activities will be necessary during the closure period. The following characteristics shall be looked for during the observation of the cover system and erosion control features:

- Sloughing.
- Cracks.
- Settlement (depression and puddles).
- Erosion features.
- Distressed vegetation/turf.

The following paragraphs describe actions that should be taken to address the conditions described above. Maintenance and repairs that are typically necessary during the closure period are also described.

H.6.1 Sloughing

Sloughing of the soil cover may occur. Areas where sloughing has occurred shall be repaired. Cover soil shall be placed in accordance with the requirements of the RAR, and of the Soil/Fill Management Plan (SFMP).

H.6.2 Cracks

The locations of any cracks in the soil, asphalt or concrete cover should be noted on the inspection log and Site map, including width, length and depth of the crack. The appropriate maintenance procedure will be determined by the inspector. Small willow cracks in the soil cover can be repaired by minor re-grading of the cracked area and re-seeding the area. Larger cracks that appear to extend into the fill material shall be filled with soil similar to that used for construction of the cover soil layer prior to re-seeding, in accordance with the RAR. Repairs to the asphalt and/or concrete will be completed when and in the fashion deemed necessary by the inspector.

H.6.3 Settlement

Settlement features such as depressions or areas of ponding water shall be re-graded by placing additional soil cover so that surface water drains in the appropriate direction.

H.6.4 Erosion Features

Erosion features shall be repaired by backfilling to the original grade with soil and re-seeding. Torn or displaced synthetic erosion control fabric in storm water channels shall be repaired or replaced as directed by the inspector.

H.6.5 Distressed Vegetation/Turf

Areas of distressed turf shall be re-seeded and a starter fertilizer applied. Large-root growth may also compromise the integrity of the soil cover and shall be discouraged with regular mowing. Reasonable efforts shall be taken to avoid damage to the turf from traffic and other unintended uses.

H.7 Inspection Reporting

Annual inspection reports shall be forwarded by the Owner to the NYSDEC. If the inspection finds that corrective action is required, a followup inspection will be made after the repairs have been completed. If the inspector determines that corrective action is required, the Corrective Action Form (Attachment C) will be included with the inspection report, confirming that the repairs were completed, and in accordance with the Remedial Work Plan.

Any analytical data that may be gathered during the course of the inspection or corrective action shall also be included with the inspection report and submitted to the NYSDEC within 21 days of the inspection. The inspection reports will be submitted by the Site Owner with an attached Annual Certification form, signed and notarized by the Site Owner, certifying that the specified engineering and institutional controls are in place and functioning.

ATTACHMENTS

- A. Environmental Inspection Form**
- B. Annual Certification of
Institutional/Engineering Controls**
- C. Correction Action Form**

ATTACHMENT A
ENVIRONMENTAL INSPECTION FORM
6 Lots Site, Lackawanna, New York

Property Name: _____ Inspection Date: _____

Property Address: _____

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section: _____ Block: _____ Lot(s): _____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions: _____

SIGNATURE:

The findings of this inspection were discussed with appropriate personnel, corrective actions were identified and implementation was mutually agreed upon:

Inspector: _____

Date: _____

Next Scheduled Inspection Date: _____

COVER & VEGETATION

- | | | |
|--|-------|-------|
| 1. Final cover in acceptable condition? | _____ | _____ |
| Is there evidence of sloughing, erosion, ponding or settlement? | _____ | _____ |
| Is there evidence of unintended traffic; rutting? | _____ | _____ |
| Is there evidence of distressed vegetation/turf? | _____ | _____ |
| | Yes | No |
| 2. Final cover sufficiently covers soil/fill material? | _____ | _____ |
| Are there cracks visible in the soil or pavement? | _____ | _____ |
| Is there evidence of erosion in the storm water channels or swales? | _____ | _____ |
| Is there damage to the synthetic erosion control fabric in the channels or swales? | _____ | _____ |

ACTIVITY ON SITE

- | | | |
|---|-------|-------|
| 3. Any activity on site that mechanically disturbed soil cover? | _____ | _____ |
|---|-------|-------|

ADDITIONAL FACILITY INFORMATION

Development on or near the site? (Specify size and type): _____

COMMENTS

Item #

ATTACHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Report (s)

ATTACHMENT B

Annual Certification of Institutional/Engineering Controls

6 Lots Site, Lackawanna, New York

Property Name:

Property Address:

County: Erie

City/Town: Lackawanna

Property ID: (Tax Assessment Map)

Section:_____

Block:_____

Lot(s):_____

I (name) _____, residing at (address) _____, as owner of the property(ies) listed above which are located wholly or partially within the boundaries of the Site named above; do certify that the engineering and/or institutional controls, as specified in the Soil/Fill Management Plan and the Operation, Monitoring and Maintenance Work Plan are in-place and functioning as designed within the property(ies) listed above.

Signature:_____

(This area for notary public)

ATTACHMENT C

CORRECTIVE ACTION FORM 6 Lots Site, Lackawanna, New York

Property Name: _____

Property Address:

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section: _____ Block: _____ Lot(s): _____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions: _____

An inspection of the subject property on (date) identified the need for corrective action.

CORRECTIVE ACTION TAKEN

Description: (attach site sketch and photographs)

Date Completed:

SIGNATURE:

The corrective action described above was completed in accordance with all relevant requirements of the Remedial Action Work Plan.

Inspector: _____ Date: _____

ATTACHMENTS

1. Site Sketch
2. Photographs

3. Laboratory Report (s)