ITHACA FALLS OVERLOOK SITE
ENVIRONMENTAL RESTORATION PROJECT
TOMPKINS COUNTY
ITHACA, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: E755018
USEPA ID # BF – 96288614

Prepared for:

City of Ithaca
108 East Green Street
Ithaca, New York 14850

Prepared by:
Barton & Loguidice, D.P.C.
443 Electronics Parkway
Liverpool, New York 13088
315-457-5200

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

---

OCTOBER 2017

CERTIFICATION STATEMENT

I Scott D. Nostrand certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Scott D. Nostrand, P.E.

12/14/2017 DATE

ITHACA FALLS OVERLOOK SITE
ENVIRONMENTAL RESTORATION PROJECT
TOMPKINS COUNTY
ITHACA, NEW YORK

SITE MANAGEMENT PLAN

Table of Contents

Table of Contents – Continued

List of Tables

List of Figures

Table of Contents – Continued

List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines

List of Acronyms (Continued)

SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	NYSDEC Site Number: E755018 Ithaca Falls Overlook Site 125 Lake Street, Ithaca, New York
Institutional Controls (ICs):	1. The property may be used for restricted residential, commercial or industrial use; 2. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health 3. All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP. 4. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; 5. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP; 6. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP; 7. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement. 8. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries, and any potential impacts that are identified must be monitored or mitigated; and 9. Vegetable gardens and farming on the site are prohibited.

Site Identification:	NYSDEC Site Number: E755018 Ithaca Falls Overlook Site 125 Lake Street, Ithaca, New York	
Engineering Controls:	Cover system	
		Frequency
Inspections:	Cover inspection	Annually
Maintenance:	Cover system maintenance	As needed
Reporting:	Periodic Review Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Ithaca Falls Overlook Site located in the City of Ithaca, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Environmental Restoration Program (ERP), Site No. E755018 which is administered by New York State Department of Environmental Conservation (NYSDEC).

The City of Ithaca entered into a State Assistance Contract (SAC), on April 2, 2008 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Tompkins County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the SAC for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this SMP.

This SMP was prepared by Barton & Loguidice, D.P.C. on behalf of the City of Ithaca, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the SAC, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

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

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

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

Table 1, below, includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table 1: Notifications*

Name	Contact Information
Gary Priscott NYSDEC Project Manager	(607) 775-2545 Gary.priscott@dec.ny.gov
Harry Warner, P.E. NYSDEC Regional HW Engineer	(315) 426-7551 harry.warner@dec.ny.gov
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 kelly.lewandowski@dec.ny.gov

**Note*: *Notifications are subject to change and will be updated as necessary.*

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the City of Ithaca, Tompkins County, New York and is identified as Tax Map Parcel 11-3-1.2 on the City of Ithaca Tax Map (see Figure 1). The site is an approximately 0.95-acre area and is bounded by the Fall Creek gorge to the north, Lake Street to the south, and City/Private property to the east and west (see Figure 2 – Site Layout Map). The boundaries of the site are more fully described in Appendix A – Environmental Easement. The owner of the site parcel(s) at the time of issuance of this SMP is:

The City of Ithaca
108 East Green Street
Ithaca, New York 14850

2.2 Physical Setting

2.2.1 Land Use

The Site is located adjacent to a former factory site, which included the former Ithaca Gun manufacturing facility. The adjacent former factory site is subject to a separate NYSDEC Brownfield Cleanup Program (BCP) project being conducted by a private party. The Ithaca Falls Overlook site contained portions of the historic Ithaca Gun Company factory operations, including storage areas and buildings associated with gun finishing.

The site is composed of four different areas described separately as the: Western Accessway; Former Walkway; Raceway; and Island. The Western Accessway is a narrow north-south trending land corridor providing assess from Lake Street, most of this area is steeply sloping to the west. The Former Walkway is a land area that extends from the Western Accessway to the former bridge over the Raceway. The Raceway is a narrow water channel constructed in bedrock which was part of the water power canal for the former Ithaca Gun Company. The Island area is an elevated area located between the Raceway and the Fall Creek gorge. The Site is currently vacant and is zoned Public and Institutional.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include a mix of City-owned natural areas, commercial and residential properties. The property immediately south of the Site includes a residential housing complex primarily supporting Cornell University; the properties immediately north of the Site include City of Ithaca natural areas (Fall Creek gorge); the properties immediately east of the Site include a mix of City-owned natural areas, private housing and housing associated with Cornell University; and the properties to the west of the Site include a student housing parking lot and City-owned natural areas.

2.2.2 Geology

According to the Surficial Geologic Map of New York – Finger Lakes Sheet (Muller and Cadwell, 1986), the site is mapped as bedrock. The subsurface investigation on the Western Accessway revealed sand and gravel fill material mixed with lead slag, ash, brick, and glass from grade to approximately 8-12 feet below grade. Bedrock was encountered at depths ranging from 0.5 feet to greater than 16 feet in this area. The remedial work conducted on the Island portion of the site removed overburden soils to native bedrock. Groundwater was not encountered above bedrock at the site. Detailed descriptions of the soil and bedrock encountered during the subsurface investigation activities are found on the subsurface boring logs. Site specific boring logs are provided in Appendix C.

2.2.3 Hydrogeology

The groundwater contour mapping developed from the site investigation data indicates a general groundwater flow direction from southeast to northwest, towards Fall Creek. Based on the December, 2012 groundwater elevation data, the average hydraulic gradient across the site is 0.28 feet per foot. It is noted, however, that the hydraulic gradient is variable across the site. Groundwater contour maps are provided as Figures 3A and 3B. Groundwater monitoring well construction logs are provided in Appendix C.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

There is a long history of previous investigation and remedial work that has taken place at the site since the Ithaca Gun Company closed in 1986. From 1995 through 1998, Cornell University and NYSDEC collected samples in the adjacent Fall Creek gorge which contained elevated levels of lead and other metals. Background samples indicated that elevated levels of metals were widespread throughout the Ithaca Falls area and on the ERP and BCP sites. In 2000, the EPA Region II Response and Prevention Branch and NYSDEC began a Removal Assessment of portions of the site and adjacent off-site areas where lead shot and slag were observed on surface soils. Elevated lead levels were observed in shallow subsurface samples that were well above the lead Restricted Residential Use Soil Cleanup Objective (SCO) of 400 ppm.

EPA removal activities took place on what is now the Ithaca Falls ERP site from 2002 through 2004. Previous buildings that were located on the Island were demolished in 2002. Contaminated soil was removed from the Island, Raceway, Plunge Pool and Western Accessway areas, as well as within the Fall Creek Gorge and other off-site areas. Soil in the Raceway was

removed to bedrock. Soil was removed from the eastern portion of the Island (east of former buildings and remaining concrete slabs), and from the Island western slope and downgradient bench. Following removals from the western slope, a tarp was installed as a temporary erosion control measure. Soils removed from the Island areas were typically excavated to 1-2 feet below grade, with imported clean material used as backfill. Some portions of the upper Island area were vacuumed and met the 400 ppm SCO. The central top portion of the Island, where the former buildings and concrete slabs were located, was not included as part of the prior EPA removals. Soil was removed from a portion of the Western Accessway to three feet in depth and the slope was regraded, stabilized and vegetated.

The ERP site investigation expanded upon the prior investigations and remediation project conducted at the site. The investigation and associated remedial activities were performed under the guidelines and oversight of the NYSDEC and New York State Department of Health (NYSDOH). Additional grant funding awarded through the United States Environmental Protection Agency (USEPA) Brownfield Cleanup Grant program was used for site remediation of the Island and Raceway. Site characterization activities determined the extent of surface soil, subsurface soil, soil vapor, and groundwater contamination stemming from the site. These activities also defined the extent of interim remedial activities conducted at the site.

The ERP field investigation activities included a review of available records and interviews with City officials and community members, installation of subsurface soil borings, installation of soil vapor extraction points, and installation of permanent bedrock groundwater monitoring wells. Media sampled as part of the investigation included testing of surface soils, subsurface soil from soil borings, soil from the plunge pool, groundwater from the permanent monitoring wells, and vapors from the soil vapor monitoring locations. The results of these activities indicated the presence of residual surface soil, subsurface soil, and groundwater impacts onsite. Lead-contaminated surface soils were observed throughout the site, particularly in areas not addressed by prior EPA remedial actions such as the Island, portions of the Western Accessway, and Former Walkway. Groundwater impacts, including volatile organic compounds and chlorinated solvents, were observed in the bedrock monitoring well installed onsite, as well as in the off-site wells to the west.

Two separate interim remedial measure (IRM) projects were conducted at the site as part of the ERP. The first included removal of two-feet of lead impacted soil from the Western Accessway. This removal included 376 tons of non-hazardous soil and 409 tons of hazardous soil, which was stabilized on-site to be rendered for disposal as a non-hazardous waste. The lead impacted soil was disposed of at an approved landfill, and was replaced with a two-foot cap of clean imported soil. A separate interim remedial measures project was conducted on the Island and in the Raceway which included removal of overburden soil until the 400 ppm SCO was achieved through confirmatory sampling, or until native bedrock was encountered. This project also included demolition of the former bridge to the Island and a source removal and cap

installation along the Former Walkway portion of the site. The Island/Raceway removal included 1,405 tons of non-hazardous soil, 435 tons of hazardous soil (stabilized and rendered non-hazardous) and 327 tons of concrete.

Based on the results of the ERP site investigation, additional off-site investigations were conducted by the NYSDEC and USEPA. This led to additional remedial efforts by the NYSDEC including installation of sub-slab depressurization systems in residential homes to mitigate potential exposures from soil vapor intrusion, and the USEPA conducting a removal action for lead impacted soil in the adjacent Ithaca Falls gorge.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Record of Decision dated September 2017 are as follows:

Groundwater

RAOs for Public Health Protection:

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

Soil

RAOs for Public Health Protection:

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection:

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection:

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

It is approximated that 2,170 cubic yards of lead contaminated soils above the 400 ppm SCO are left in-place beneath the cap system of the Western Accessway. It is approximated that 118 cubic yards of lead contaminated soils above the 400 ppm SCO are left in-place beneath the cap system on the Former Walkway area. Based on final clearance sampling no contamination is present within the Island, Raceway and plunge pool portions of the site. The areas of residual soil contamination above Part 375 Restricted Residential SCOs include the following:

Table 2. Approximate Areas of Residual Soil Impacts

Description	Area (ft^2)	Impacted Depth (fbg)	Soil Volume (ft^3)	Soil Volume (cy)
Western Accessway	7200	2-16	58,600	2170
Former Walkway	3200	2-3	3200	118

Note: Impacted soils occur at various depths throughout the site. The Impacted Depth represents the potential range of impacted soils.

Figures 4 and 5 depict the remaining areas of subsurface contamination with lead concentrations above Restricted Residential Use SCOs. The areas depicted are all below 2 feet and are covered with an approved cap system.

2.5.2 Groundwater

Three 2-inch bedrock monitoring wells (MW-5 through MW-7) were installed as part of the site investigation. Historic monitoring wells MW-3 and MW-4 were also sampled as part of the groundwater investigation. The wells were installed and sampled to perform a number of functions including:

- To determine the direction, hydraulic gradient, and seasonal variation of groundwater flow;
- To determine potential routes of contaminant migration; and
- To characterize levels of contaminants present in the groundwater.

Based on the results of the groundwater monitoring well sampling, the site groundwater within the fractured bedrock has been impacted by VOCs. The results appear to indicate the source is to the east emanating from the Former Ithaca Gun Factory site. Impacted groundwater migrates beneath the Western Accessway portion of the site and off-site to the west and northwest (refer to Figures 3A and 3B). The metals detected are likely attributable to dissolved

metals in the groundwater. Future groundwater monitoring will be conducted by the NYSDEC. Table 3 summarizes the results of all samples of groundwater that exceed the SCGs.

Table 3. Summary of Groundwater Results

Detected Constituents	Concentration Range (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
1,1-Dichloroethane	ND – 19	5	2 of 10
1,1-Dichloroethene	ND – 18	5	2 of 10
Benzene	ND – 2.1	1	2 of 10
Cis-1,2-Dichoroethene	ND – 1,800	5	6 of 10
Tetrachloroethene	ND - 230	5	3 of 10
Trans-1,2-Dichloroethene	ND – 11	5	2 of 10
Trichloroethene	ND – 1,700	5	7 of 10
Vinyl chloride	ND – 91	2	2 of 10
SVOCs			
Bis(2-Ethylhexyl)phthalate	ND – 7	5	1 of 10
Inorganics			
Antimony	5.42 JN – 18.9 N	3	10 of 10
Chromium	ND – 86.5	50	1 of 10
Iron	80.6 – 1,100	300	5 of 10
Manganese	20.4 – 3,140	300	2 of 10
Sodium	13,200 – 271,000	20,000	9 of 10

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

ND – compound was not detected.

J – reported value was obtained from a reading that was less than the quantification limit, but greater than the method detection limit.

N – matrix spike recovery was outside control limits.

2.5.3 Soil Vapor

A soil vapor survey was conducted as part of the ERP site investigation to evaluate the potential for volatilization of soil vapors into occupied spaces of potential future adjacent off-site structures. The survey included the sampling of four soil vapor points (SV-01, SV-02, SV-03, and SV-04) along the Western Accessway.

The soil vapor survey revealed elevated levels of TCE at SV-01 and SV-02 (located near the soil borings on the Western Accessway), with concentrations of 1,682 and 1,784 ppb, respectively. Other low-level VOC detections were also observed in the soil vapor samples. Soil gas data is utilized as a tool to determine investigation efforts, and based upon these results, the NYSDEC conducted additional off-site vapor intrusion investigations. Based on these results, institutional and engineering controls will be enforced to address vapor mitigation in the event of future redevelopment of the site.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

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

This plan provides:

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

3.2 Institutional Controls

A series of ICs is required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are depicted in Appendix A. These ICs are:

- The property may be used for restricted residential, commercial or industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.

- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted in Appendix A, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited;

3.3 Engineering Controls

3.3.1 Cover

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean soil. Figures 4 and 5 present the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix E.

3.3.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.2.1 Cover

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

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. All analytical sampling (on and off-site groundwater and vapor monitoring) is currently conducted by the NYSDEC.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. Inspections will also be conducted following rainfall events greater than 3.0 inches over 24-hours. During these inspections, the following information will be documented:

- Compliance with all ICs, including site usage;

- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Any noted areas of erosion affecting cover systems or exposing additional site debris;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climatic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

- Flood Plain: The site is not located in a flood plain, low-lying or low-groundwater recharge area.
- Site Drainage and Storm Water Management: The site cap systems and exterior slopes will be inspected on an annual basis to ensure they are adequately stabilized.
- Erosion: Any evidence of erosion at the site or areas of the site which may be susceptible to erosion will be evaluated annually and following significant (>3.0 inches within 24-hours) rainfall events.
- High Wind: The site cap systems and exterior slopes will be inspected on an annual basis to ensure they are adequately stabilized.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

The operation and maintenance of the selected remedy does not require energy, emissions, or water usage.

6.2.1 Frequency of System Checks, Sampling, and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

6.2.2 Metrics and Reporting

Not applicable - the operation and maintenance of the selected remedy does not require energy, emissions, or water usage.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All applicable records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 4 and summarized in the Periodic Review Report.

Table 4: Schedule of Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Periodic Review Report	Annually, or as otherwise determined by the Department

**The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.*

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;

- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Record of Decision is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment, and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link:

  http://www.dec.ny.gov/chemical/62440.html
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific Record of Decision;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
  - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Record of Decision.
  - The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, _____, of _____, am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative]. I have been authorized and designated by all site owners/remedial parties to sign this certification for the site."

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

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

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

8.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

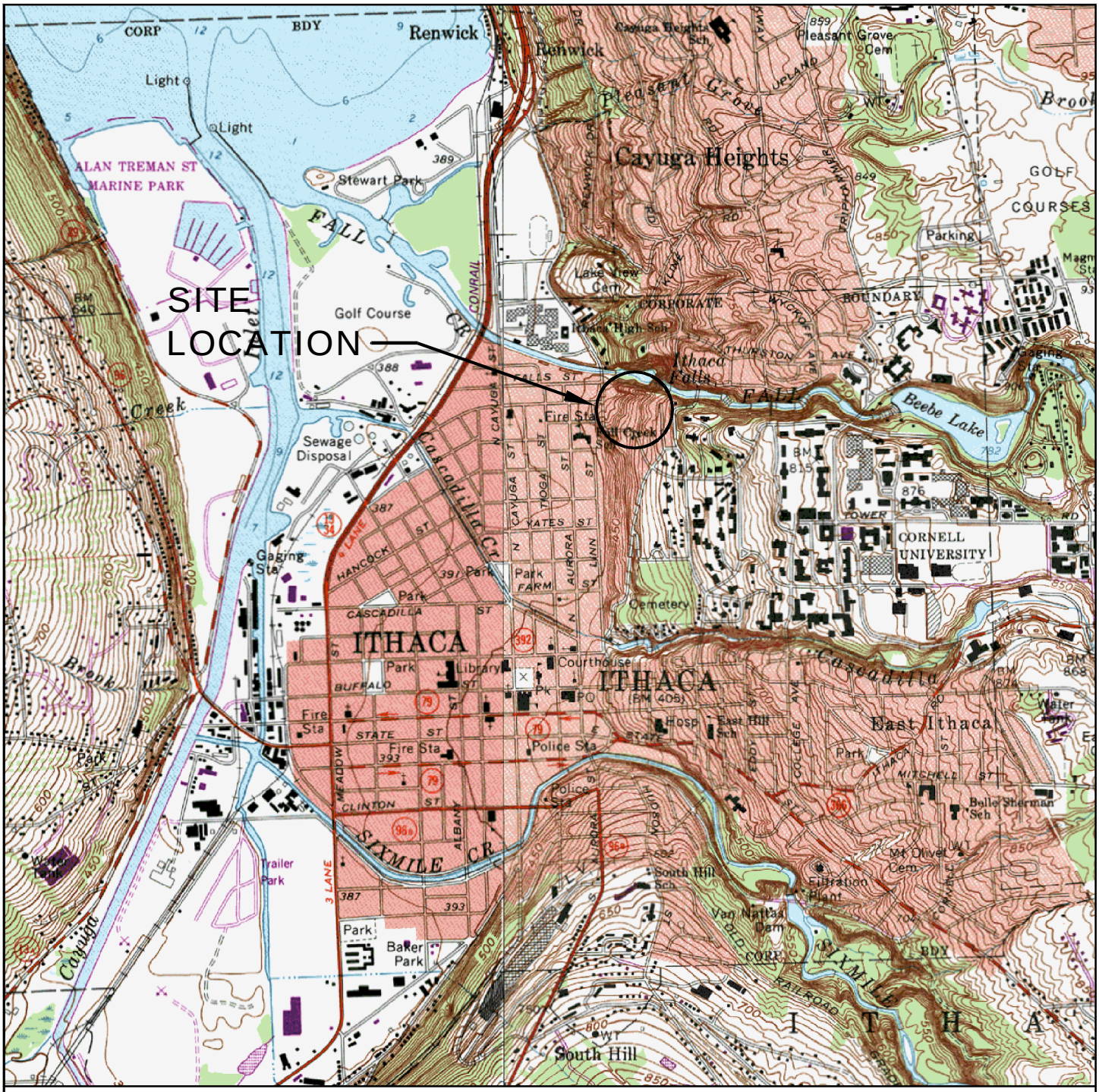
NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

Site Investigation Report, Ithaca Falls Environmental Restoration Project - New York State Assistance Contract no. E755018. Barton & Loguidice. March 2016.

Figure 1

Site Location Plan



SOURCE: ITHACA EAST & ITHACA WEST, NEW YORK U.S.G.S. QUADRANGLE MAPS, DATE 1979.

QUADRANGLE LOCATION

2000' 0 2000'

1"=2000'

N

Barton & Loguidice, P.C.

ITHACA URBAN RENEWAL AGENCY

ITHACA FALLS OVERLOOK ENVIRONMENTAL RESTORATION PROGRAM

SITE LOCATION PLAN

CITY OF ITHACA TOMPKINS COUNTY, NEW YORK

Date	Scale
OCTOBER, 2011	1" = 2000'

Figure Number 1

Project Number 1307.002.001

Plotted: Oct 26, 2011 - 4:17PM SYR By: jgs
I:\Shared\1300\1307002\1307002_ERP_FIG1.dwg

Figure 2

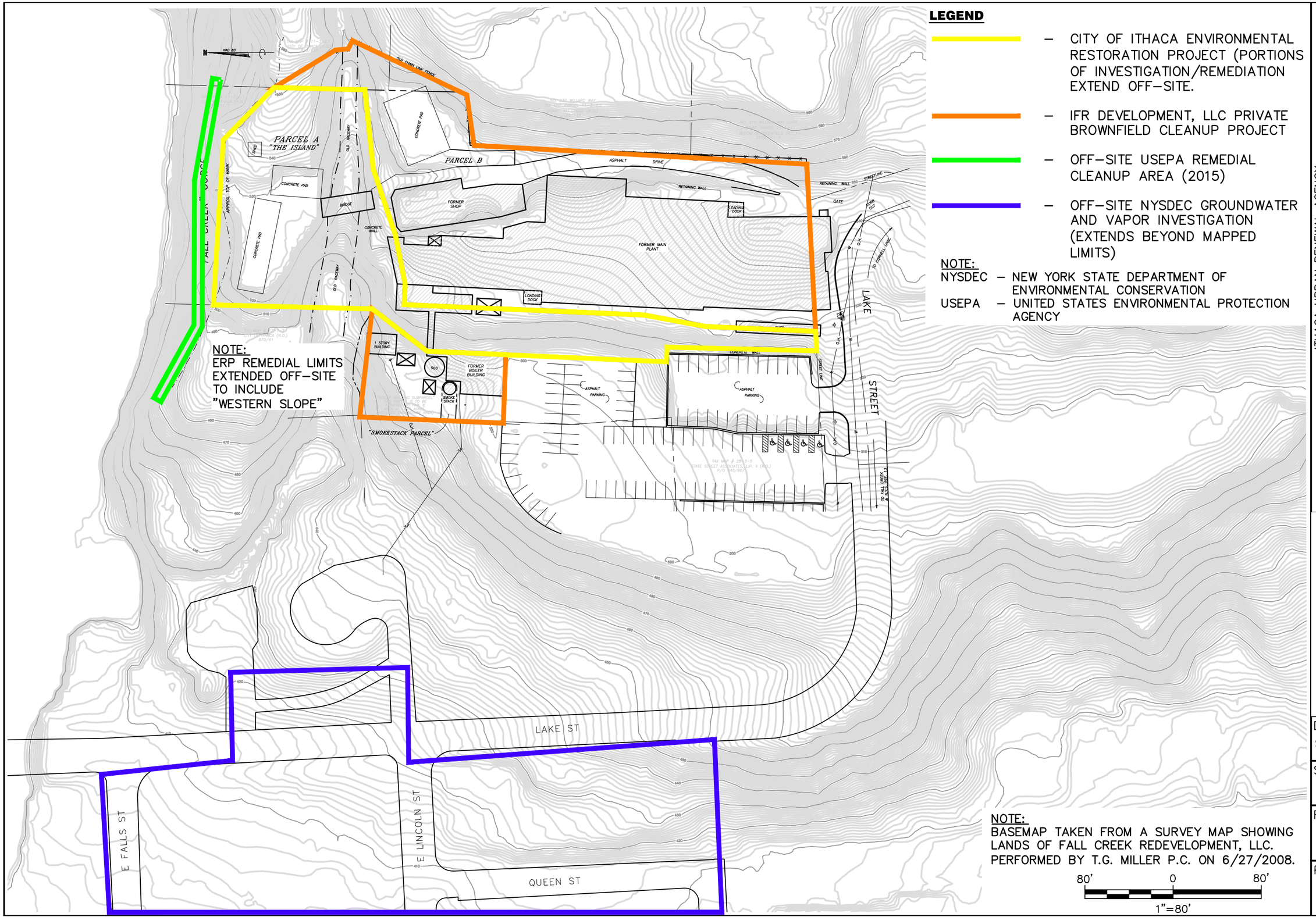
Site Plan – Remedial Jurisdictions

SITE PLAN – REMEDIAL JURISDICTIONS

ITHACA URBAN RENEWAL AGENCY
ITHACA FALLS OVERLOOK

TOMPKINS COUNTY, NEW YORK

CITY OF ITHACA



LEGEND

- CITY OF ITHACA ENVIRONMENTAL RESTORATION PROJECT (PORTIONS OF INVESTIGATION/REMEDIATION EXTEND OFF-SITE.
- IFR DEVELOPMENT, LLC PRIVATE BROWNFIELD CLEANUP PROJECT
- OFF-SITE USEPA REMEDIAL CLEANUP AREA (2015)
- OFF-SITE NYSDEC GROUNDWATER AND VAPOR INVESTIGATION (EXTENDS BEYOND MAPPED LIMITS)

NOTE:
NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
USEPA – UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NOTE:
BASEMAP TAKEN FROM A SURVEY MAP SHOWING LANDS OF FALL CREEK REDEVELOPMENT, LLC. PERFORMED BY T.G. MILLER P.C. ON 6/27/2008.

80' 0 80'
1"=80'

Barton & Loguidice, D.P.C.

Date
SEPTEMBER 2015

Scale
1" = 80'

Figure Number
2

Project Number
1307.002.001

Plotted: Jan 28, 2016 – 1:36PM SYR By: jgs2
I:\Shared\1300\1307002\GROUNDWATER\1307002_FIG 2B.dwg

Figure 3

Groundwater Contour Maps

3A October 2012
3B December 2012

ERP SITE LIMITS
(ALL LOCATIONS OUTSIDE
OF PARCEL A ARE
CONSIDERED "OFF-SITE")

HISTORIC
MW-1

HISTORIC
MW-3
(483.92)

MW-5
(478.68)

HISTORIC
MW-4
(458.35)

MW-6
(391.59)

MW-7
(393.70)

"FALL CREEK" GORGE

PARCEL A
"THE ISLAND"

PARCEL B

"SMOKESTACK" PARCEL

LAKE STREET

LAKE ST

E FALLS ST

E LINCOLN ST

QUEEN ST

LEGEND

- 500 — EXISTING GROUND CONTOUR
- MW-# — MONITORING WELL LOCATION
- 500 — GROUNDWATER CONTOUR
- INFERRED WHERE DASHED
- GENERAL GROUNDWATER FLOW DIRECTION

NOTE:
BASEMAP TAKEN FROM A SURVEY MAP SHOWING LANDS OF FALL CREEK REDEVELOPMENT, LLC. PERFORMED BY T.G. MILLER P.C. ON 6/27/2008.

80' 0 80'
1"=80'

OCTOBER 17, 2012 – POTENTIOMETERIC SURFACE GROUNDWATER CONTOUR MAP

ITHACA URBAN RENEWAL AGENCY
ITHACA FALLS OVERLOOK
TOMPKINS COUNTY, NEW YORK
CITY OF ITHACA

Barton & Loguidice, D.P.C.

Date	SEPTEMBER 2015
Scale	1" = 80'
Figure Number	3A
Project Number	1307.002.001

Plotted: Mar 02, 2016 - 8:50AM SYR By: jgs2
I:\Shared\1300\1307002\GROUNDWATER\1307002_GW CONT MAP_OCT 2012 - REV 091515.dwg

ERP SITE LIMITS
(ALL LOCATIONS OUTSIDE
OF PARCEL A ARE
CONSIDERED "OFF-SITE")

HISTORIC MW-1

MW-5 (477.68)

HISTORIC MW-3 (490.57)

HISTORIC MW-4 (473.87)

MW-6 (395.70)

MW-7 (402.27)

"FALL CREEK" GORGE

PARCEL A "THE ISLAND"

PARCEL B

"SMOKESTACK PARCEL"

LAKE STREET

LAKE ST

E FALLS ST

E LINCOLN ST

QUEEN ST

LEGEND

- EXISTING GROUND CONTOUR
- MW-# MONITORING WELL LOCATION
- 500 GROUNDWATER CONTOUR
- INFERRED WHERE DASHED
- GENERAL GROUNDWATER FLOW DIRECTION

NOTE:
BASEMAP TAKEN FROM A SURVEY MAP SHOWING LANDS OF FALL CREEK REDEVELOPMENT, LLC. PERFORMED BY T.G. MILLER P.C. ON 6/27/2008.

80' 0 80'
1"=80'

DECEMBER 19, 2012 – POTENTIOMETRIC SURFACE GROUNDWATER CONTOUR MAP

ITHACA URBAN RENEWAL AGENCY
ITHACA FALLS OVERLOOK

TOMPKINS COUNTY, NEW YORK
CITY OF ITHACA

Barton & Loguidice, D.P.C.

Date
SEPTEMBER 2015

Scale
1" = 80'

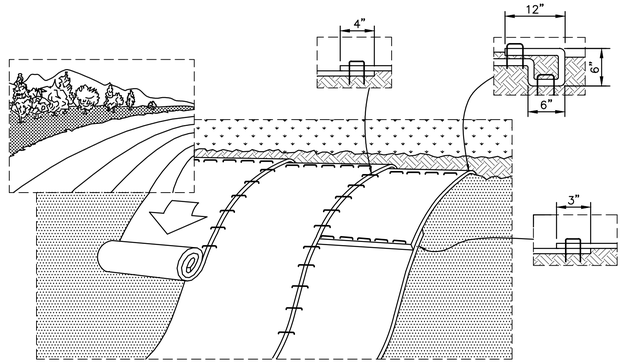
Figure Number
3B

Project Number
1307.002.001

Plotted: Mar 02, 2016 - 8:45AM SYR By: jgs2
I:\Shared\1300\1307002\GROUNDWATER\1307002_GW CONT MAP_DEC 2012 - REV 091515.dwg

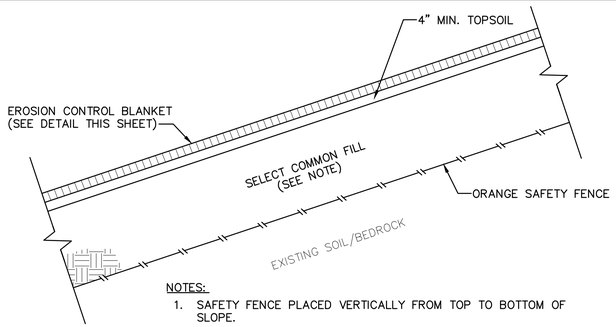
Figure 4

Western Accessway Remedial Construction



EROSION CONTROL BLANKET DETAIL

NOT TO SCALE

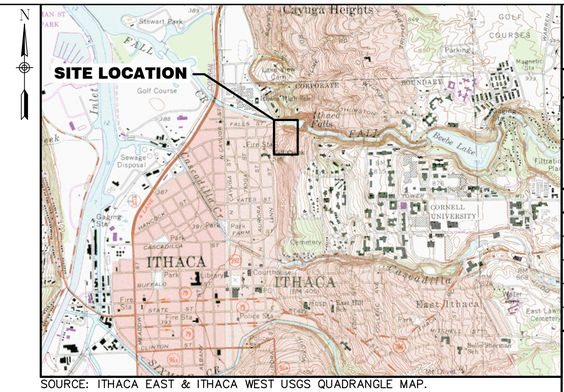


NOTES:

1. SAFETY FENCE PLACED VERTICALLY FROM TOP TO BOTTOM OF SLOPE.
2. SAFETY FENCE ANCHORED AT TOP OF SLOPE IN 6" BY 6" TRENCH PRIOR TO SOIL PLACEMENT.
3. 1'–8" OF SELECT COMMON FILL TO BE PLACED IN ALL AREAS OF EXCAVATION.

REMEDIATION AREA BACKFILL DETAIL

SCALE: 3/8" = 1'–0"



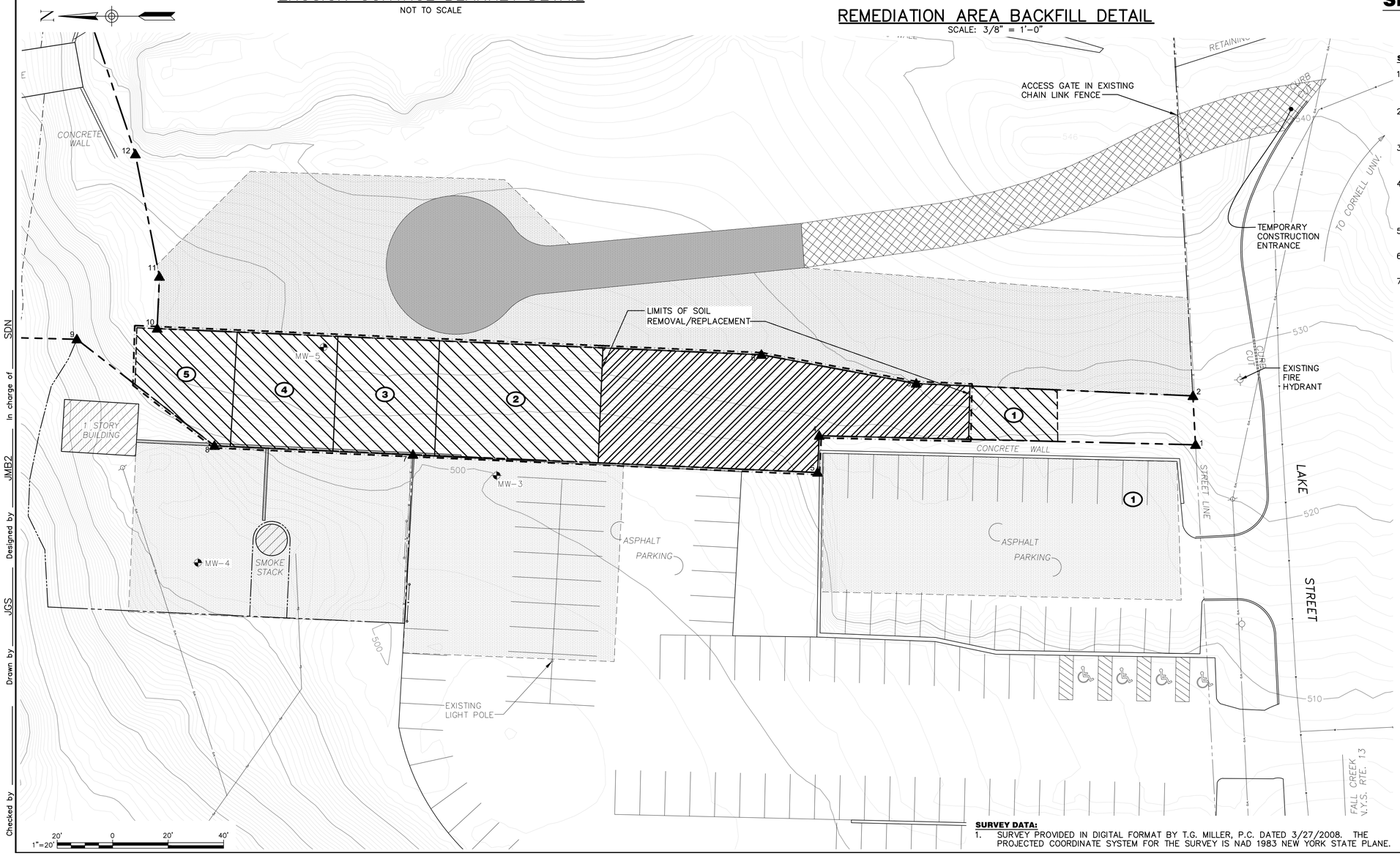
SOURCE: ITHACA EAST & ITHACA WEST USGS QUADRANGLE MAP.

SITE LOCATION MAP

SCALE: 1" = 2000'

2000' 0 2000'

1"=2000'



20' 0 20' 40'

1"=20'

SOIL REMOVAL NOTES:

1. A MINIMUM OF 2'–0" OF SOIL WERE REMOVED IN ALL SOIL REMOVAL/REPLACEMENT AREAS, EXCEPT WHERE BEDROCK IS ENCOUNTERED PRIOR TO THAT DEPTH.
2. WHERE SOIL DEPTH IS NOT SUFFICIENT FOR MECHANICAL REMOVAL, A SOIL VACUUM WAS USED IN ACCORDANCE WITH THE SPECIFICATIONS.
3. SOIL WAS HAND EXCAVATED FROM WITHIN (3) FEET OF THE EXISTING RETAINING WALLS TO ENSURE INTEGRITY OF THE WALL AFTER REMOVAL.
4. SOILS WERE REMOVED IN PHASES AND STAGED WITHIN OFF–PROPERTY WORK AREA "A" AND/OR "B" SEPARATELY ACCORDING TO SOIL REMOVAL PHASE AS INDICATED ON THE DRAWING.
5. STOCKPILED SOIL WERE SAMPLED. AREAS 3–5 REQUIRED STABILIZATION PRIOR TO BEING REMOVED FROM THE SITE.
6. ALL STOCKPILED SOIL WERE PLACED ON POLY SHEETING TO PROTECT EXISTING SOILS FROM CONTAMINATION.
7. ALL SOIL STOCKPILES WERE SURROUNDED BY TEMPORARY BERMS TO PREVENT MIGRATION OF SOILS.

PIN NO.	NORTHING	EASTING
1	893068.47	844501.00
2	893069.42	844518.61
3	893169.19	844523.06
4	893204.16	844504.26
5	893204.75	844490.99
6	893224.98	844533.45
7	893350.61	844497.45
8	893422.20	844500.62
9	893471.78	844539.03
10	893442.82	844542.89
11	893442.01	844561.60
12	893450.68	844605.74

SOIL REMOVAL VOLUMES	
AREA	CUBIC YARDS
1	55
2	215
3	130
4	128
5	80

LEGEND

- PROPERTY LINE
- 550 EXISTING CONTOUR
- EXISTING CHAIN LINK FENCE
- EXISTING RETAINING WALL
- LOCATION OF STEEL PIN
- MW–4 EXISTING MONITORING WELL
- OFF–PROPERTY WORK AREA
- LIMITS OF SOIL REMOVAL/REPLACEMENT
- FORMER EPA REMOVAL AREA MEETING SCOs
- LIMITS OF REMAINING CONTAMINATION
- # SOIL REMOVAL PHASE (SEE SOIL REMOVAL NOTES)

SURVEY DATA:

1. SURVEY PROVIDED IN DIGITAL FORMAT BY T.G. MILLER, P.C. DATED 3/27/2008. THE PROJECTED COORDINATE SYSTEM FOR THE SURVEY IS NAD 1983 NEW YORK STATE PLANE.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

WESTERN ACCESSWAY REMEDIAL CONSTRUCTION

ITHACA FALLS OVERLOOK ENVIRONMENTAL RESTORATION PROJECT
INTERIM REMEDIAL MEASURE – 1
CITY OF ITHACA

TOMPKINS COUNTY, NEW YORK

CITY OF ITHACA

Barton & Loguidice, D.P.C.

Date
OCTOBER, 2015

Scale
1" = 20'

Figure Number
4

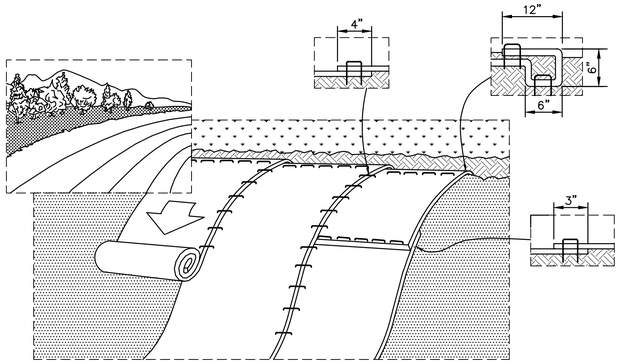
File Number
1307.002

Plotted: Oct 29, 2015 – 11:15AM SYR By: jgs2
I: \Shared\1300\1307002\ERP CONSTRUCTION\1307002_0–1 As Built.dwg

Checked by _____ Drawn by JGS Designed by JMB2 In charge of SDN

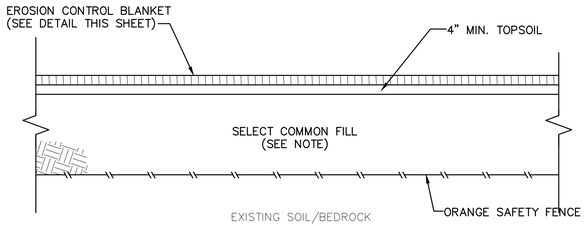
Figure 5

Remedial Excavation Plan



EROSION CONTROL BLANKET DETAIL

NOT TO SCALE

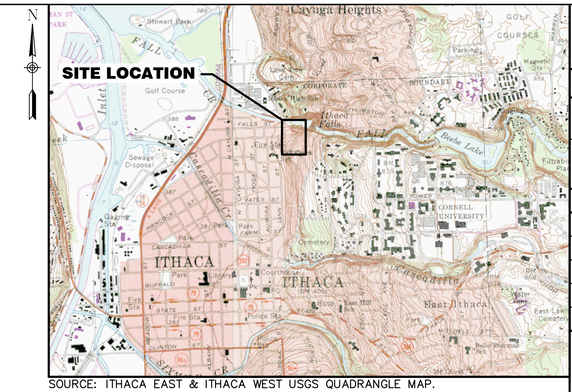


NOTES:

1. SAFETY FENCE PLACED VERTICALLY FROM TOP TO BOTTOM OF SLOPE.
2. SAFETY FENCE ANCHORED AT TOP OF SLOPE IN 6" BY 6" TRENCH PRIOR TO SOIL PLACEMENT.
3. 1'–8" OF SELECT COMMON FILL TO BE PLACED IN ALL AREAS OF EXCAVATION.

REMEDIATION AREA BACKFILL DETAIL

SCALE: 3/8" = 1'–0"



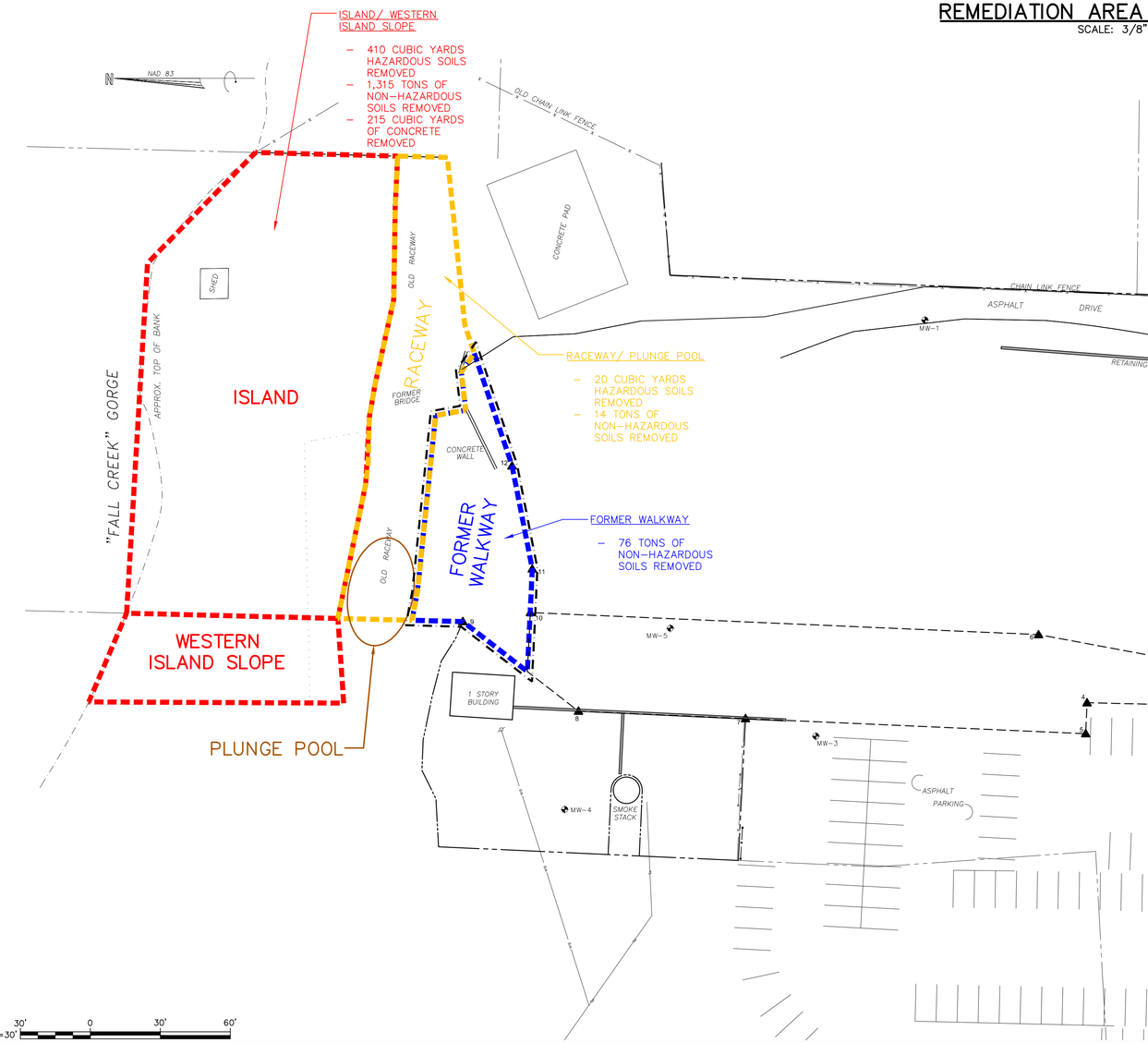
SOURCE: ITHACA EAST & ITHACA WEST USGS QUADRANGLE MAP.

SITE LOCATION MAP

SCALE: 1" = 2000'

2000' 0 2000'

1"=2000'



PIN NO.	NORTHING	EASTING
1	893068.47	844501.00
2	893069.42	844518.61
3	893169.19	844523.06
4	893204.16	844504.26
5	893204.75	844490.99
6	893224.98	844533.45
7	893350.61	844497.45
8	893422.20	844500.62
9	893471.78	844539.03
10	893442.82	844542.89
11	893442.01	844561.60
12	893450.68	844605.74

LEGEND

- PROPERTY LINE
- 550 EXISTING CONTOUR
- EXISTING CHAIN LINK FENCE
- EXISTING RETAINING WALL
- LOCATION OF STEEL PIN
- MW–4 EXISTING MONITORING WELL
- LIMITS OF REMAINING CONTAMINATION

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

CITY OF ITHACA

ITHACA FALLS OVERLOOK EPA BROWNFIELD CLEANUP PROJECT

REMEDIAL EXCAVATION PLAN

TOMPKINS COUNTY, NEW YORK

CITY OF ITHACA

Barton & Loguidice, D.P.C.

Date
OCTOBER, 2015

Scale
1" = 30'

Figure Number
5

File Number
1307.002.002

Checked by _____ Drawn by JGS Designed by JMB2 In charge of SDN

Plotted: Oct 29, 2015 – 3:37PM By: jgs2
I:\Shared\1300\1307002\1307002002_Fig 11.dwg

Appendix A

Environmental Easement

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 8th day of December, 2017 between Owner(s) City of Ithaca, having an office at 108 East Green Street, Ithaca, New York 14850, County of Tompkins, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of Lake Street in the City of Ithaca, County of Tompkins and State of New York, known and designated on the tax map of the County Clerk of Tompkins as tax map parcel number: Section 11 Block 3 Lot 1.21, being the same as that property conveyed to Grantor by deed dated December 26, 2008 and recorded in the Tompkins County Clerk's Office in Instrument No. 536781-001. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.948 +/- acres, and is hereinafter more fully described in the Land Title Survey dated October 30, 2017 prepared by Lee Dresser, L.L.S. of T.G. Miller P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of State Assistance Contract Number: C304197, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: E755018
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

City of Ithaca:

By: _____

Print Name: Svante Myrick

Title: Mayor Date: 11/20/2017

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the 20 day of November, in the year 2017, before me, the undersigned, personally appeared SvanteMyrick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

KRIN MARIE BARRY
Notary Public, State of New York
No. 01BA6088225
Qualified in Tompkins County
Commission Expires April 13, 2019

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner.

By: _____
Michael J. Ryan, Assistant Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 8th day of December, in the year 2017 before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

Legal Description

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Ithaca, County of Tompkins, State of New York, being bounded and described as follows:

BEGINNING at a point in the north line of Lake Street, said point being located South 86 55' 12 West 156.76 feet from the southeast comer of lands of Fall Creek Redevelopment, LLC, as described in Instrument No.: 482204-001.

RUNNING THENCE South 86 55' 12" West along the north line of Lake Street for a distance of 17.64 feet to a point;

RUNNING THENCE North 01 22' 34" East for a distance of 135.73 feet to a point;

RUNNING THENCE North 87 27' 48" West for a distance of 13.29 feet to a point;

RUNNING THENCE North 02 32' 12" East 217.66 feet to a point;

RUNNING THENCE North 37 45' 42" East for a distance of 62.73 feet to a point;

RUNNING THENCE North 01 25' 32" East for a distance of 144.20 feet to a point;

RUNNING THENCE South 86 34' 50" East for a distance of 150.25 feet to a point;

RUNNING THENCE South 45 39' 52" East for a distance of 66.20 feet to a fence post at the top of bank of the "Fall Creek Gorge;"

RUNNING THENCE South 01 28' 24" West for a distance of 82.33 feet to a point;

RUNNING THENCE South 84 03' 39" West for a distance of 72.19 feet to a point;

RUNNING THENCE South 71 27' 26" West for a distance of 63.71 feet to a point;

RUNNING THENCE South 78 53' 42" West for a distance of 44.98 feet to a point;

RUNNING THENCE North 87 32' 15" West for a distance of 18.73 feet to a point;

RUNNING THENCE South 02 28' 49" West for a distance of 218.05 feet to a point;

RUNNING THENCE South 10 33' 13" West for a distance of 56.74 feet to a point;

RUNNING THENCE South 02 33' 08" West for a distance of 99.87 feet to the point and place of beginning.

Said parcel containing 0.948 acres.

For a more particular description thereof, reference is hereby made to Parcel "A" on a survey map entitled "Survey Map Showing Lands of Fall Creek Redevelopment, LLC, located at No. 121-125 Lake Street, City of Ithaca, Tompkins County, New York," dated June 27, 2008, and revised December 29, 2008, prepared by T.G. Miller, P.C., Engineers and Surveyors, Ithaca, New York.

Appendix B

List of Site Contacts

List of Site Contacts		
Name		**Phone/Email Address**
Site Owner	City of Ithaca Contact: Nels Bohn Ithaca Urban Renewal Agency	nelsb@cityofithaca.org 607-274-6547
Remedial Party	City of Ithaca Contact: Nels Bohn Ithaca Urban Renewal Agency	nelsb@cityofithaca.org 607-274-6547
Qualified Environmental Professional	Scott Nostrand, P.E. Barton & Loguidice, D.P.C.	snostrand@bartonandloguidice.com 315-457-5200
NYSDEC DER Project Manager	Gary Priscott	gary.priscott@dec.ny.gov 607-775-2545
NYSDEC Regional Hazardous Waste Engineer	Harry Warner	harry.warner@dec.ny.gov 315-426-7551
NYSDEC Site Control	Kelly Lewandowski	kelly.lewandowski@dec.ny.gov 518-402-9569
Off-Site Access Contacts	Travis Hyde Properties Contact: Frost Travis	ftravis@travishyde.com 607-273-1654

APPENDIX C

MONITORING WELL BORING AND CONSTRUCTION LOGS

SUBSURFACE INVESTIGATION LOG

BORING NO. **MW-04**

Project No. **1307.002.001**

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Ithaca Falls Overlook - Environmental Restoration Project	**Drilling Co:**	GeoLogic, NY Inc.
Client:	City of Ithaca	**Driller:**	Dave & Scott
Site Location:	125 Lake Street, Ithaca, New York	**Rig Type:**	Truck Mounted Auger Rig
Job No:	1307.002.001	**Drilling Method(s):**	Rollerbit
Project Manager:	David R. Hanny	**Hammer Wt/Drop:**	N/A
Logged By:	LJK	**Hammer Type:**	N/A
Dates Drilled	8/30/2012	**Borehole Diam:**	8" **Total Depth:** 55.0'
LOCATION INFORMATION		**WELL INFORMATION**	
Horiz. Datum:	NYSP NAD 1983 (FT) **Easting:** 844458.49	**Ground Elevation:**	491.90 **Screen Type/Diam:** 2" dia. PVC
Vert. Datum:	NAVD 1988 (FT) **Northing:** 893428.10	**Top PVC Elevation:**	493.63 **Slot Size:** 0.010"

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-04

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
2			MW-04 was previously installed as an open-hole well, but debris had entered and obstructed the well. GeoLogic, NY used a rollerbit to re-advance boring to its original depth. The boring was then flushed with potable water to remove cuttings and debris. Upon reaching the total depth of original boring, a 2 inch diamter PVC well with sandpack was installed as detailed in the well constuction notes.							
4										
6										
8										
10										
12										
14										
16										
18										
20										
22										
24										
26										
28										
30										
32										
34										
36										
38										6" Choker Sand
40										4.6' Bentonite Seal
42										6" Choker Sand
44										Filter Sand
46										Top of Screen 45'
48										
50										
52										
54										Bottom of well @ 55'

SUBSURFACE INVESTIGATION LOG

BORING NO. **MW-05**

Project No. **1307.002.001**

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Ithaca Falls Overlook - Environmental Restoration Project	**Drilling Co:**	GeoLogic, NY Inc.
Client:	City of Ithaca	**Driller:**	Scott & Taylor
Site Location:	125 Lake Street, Ithaca, New York	**Rig Type:**	Truck Mounted Auger Rig
Job No:	1307.002.001	**Drilling Method(s):**	4.25" ID HSA
Project Manager:	David R. Hanny	**Hammer Wt/Drop:**	140 lb/ 30 in
Logged By:	LJK/JGH	**Hammer Type:**	Automatic
Dates Drilled	9/12/2012-9/19/2012	**Borehole Diam:** 8.0"	**Total Depth:** 62.5'
LOCATION INFORMATION		**WELL INFORMATION**	
Horiz. Datum:	NYSP NAD 1983 (FT) **Easting:** 844536.16	**Ground Elevation:**	520.84 (flush mount) **Screen Type/Diam:** 2" dia. PVC
Vert. Datum:	NAVD 1988 (FT) **Northing:** 893382.82	**Top PVC Elevation:**	520.36 **Slot Size:** 0.010"

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-05

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
1	SS		**FILL MATERIAL:** Black Slag material, loose, dry.	1	0-2	0.6	1-3-5-6	8	FILL MATERIAL	
3	SS		Dark Brown f SAND, little f Gravel, slag (?) mixed in. 3.0'-3.5': Grey f-c SAND, some f-m Gravel, rounded pebbles. 3.5'-4.0': slag Dry, loose.	2	2-4	1.2	20-12-5-6	17		
5	SS		4.0'-4.5': Black f-m SAND, lead shot observed. 4.5'-5.0': Grey Concrete/Slag material 5.0'-5.5': Reddish Brown slag Dry, loose.	3	4-6	1.3	5-4-6-5	10		
7	SS		Coal/Slag material.	4	6-8	1.5	4-3-2-2	5		
9	SS		Dark Brown f-c SAND, concrete in bottom of shoe.	5	8-10	0.2	6-3-2-2	5		
11	SS		10.0'-11.0': Grey Concrete. 11.0'-11.5': Black Coal/Slag Dry, loose.	6	10-12	1.3	14-7-5-6	12		
13	SS		12.0'-12.8': Brown/Grey slag fill material. Bottom 2" Brown f-c SAND, some Gravel, slightly moist (possibly drilling derived?).	7	12-14	0.8	7-6-5-9	11		
15	SS		14.0'-14.3': Grey Concrete fill material 14.3'-14.5': Brown f-c SAND, gravel stuck in shoe.	8	14-16	0.4	7-6-6-5	12		
17	SS		16.0'-16.3': Concrete/Coal slag fill material 16.3'-16.5': Brown f-c SAND 16.5'-17.0': Grey weathered rock material, horizontal fractures, dry, loose.	9	16-18	1.0	7-24-12-6	36		
19	SS		18.0'-18.3': Grey/Brown f-c SAND **BEDROCK:** 18.3'-19.4': Grey/Brown weathered rock fragments, angular, horizontal fractures, dry, loose.	10	18-20	1.2	27-70 100/0.4		BEDROCK	Spoon refusal Bedrock @ 18.3'

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-05

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
20			**BEDROCK:**							Auger w/o spoon to 21.5'
21	SS		Weathered rock fragments, some f-c Sand, dry, loose	11	20-22	0.1	100/0.3			Rollerbit to 22.5'
22										Top of Rock 22.5'
23	HQ		Grey Shale/Siltstone, fairly uniform with horizontal fractures, spaced about 2"-4" apart, flat lying, close fit of fractured surfaces, oxidation discoloring observed @ 25.8' and on fracture surfaces from 25.5' to 28.0', occasional vertical or sub-vertical fracture, intervals of massive coarser grained lithology ("gritty" surface texture) with very clean breaks, trace fossils, heavy vertical and horizontal fractures at 31.5' to 32.5', oxidation discoloration.	12	22.5-32.5			12%		
33	HQ		Similar to above, highly vertical and horizontally fractured, 32.5'-33.5' oxidized/discolored on fractured surfaces, poor fit of sections but appear mechanically chewed up. Healed vertical fractures at 33.3'-36.5', sediment (Grey and Brown silt and sand) on fracture faces 32.5'-33.5', becomes massively bedded below 33.5', occasional widely spaced horizontal fractures- clean breaks, may be mechanical, bottom 5.4' was solid core- mechanically broken to fit in core box. Healed vertical fractue at 35'-35.4'.	13				90%	BEDROCK	Top of Choker Sand 33' Top of Bentonite Seal 33.5' Top of Choker Sand 36.8' Top of Filter Pack 37.4' Top of Screen 40.5'
43	HQ		Same as above- very massive, natural horizontal fracture at 44.5' with oxidized coloration and brown silt sediment on fracture face, poor fit of pieces- may be a small void or worn fracture (indicative of groundwater movement?). Overall lithology appears dolomitic(?), occasional fossils and styolites. Other apparent natural horizontal fractures observed at 47.08' and 51.0', trace Grey Silt on fracture faces. Note: core was broken manually to fit in box.	14				100%		
50										

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-05

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
50			**BEDROCK:**						BEDROCK	Bottom of Screen 50.5'
51										
52										Top of Choker Sand 51.5'
53			Same as above- Recovery was one continuous piece, broke to fit in core box.							Top of Bent. Chips 52.5'
54										
55										
56										
57	HQ			15				100%		
58										
59										
60										
61										
62										End of core @ 62.5'
63										
64										
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										

SUBSURFACE INVESTIGATION LOG

BORING NO. **MW-06**

Project No. **1307.002.001**

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Ithaca Falls Overlook - Environmental Restoration Project	**Drilling Co:**	GeoLogic, NY Inc.
Client:	City of Ithaca	**Driller:**	Scott & Taylor
Site Location:	125 Lake Street, Ithaca, New York	**Rig Type:**	Truck Mounted Auger Rig
Job No:	1307.002.001	**Drilling Method(s):**	4.25" ID HSA
Project Manager:	David R. Hanny	**Hammer Wt/Drop:**	140 lb/ 30 in
Logged By:	LJK	**Hammer Type:**	Automatic
Dates Drilled	9/5/2012-9/19/2012	**Borehole Diam:** 8.0"	**Total Depth:** 63.5'
LOCATION INFORMATION		**WELL INFORMATION**	
Horiz. Datum: NYSP NAD 1983 (FT)	**Easting:** 844218.51	**Ground Elevation:** 424.13 (flush mount)	**Screen Type/Diam:** 2" dia. PVC
Vert. Datum: NAVD 1988 (FT)	**Northing:** 893581.72	**Top PVC Elevation:** 423.69	**Slot Size:** 0.010"

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-06

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
1	SS		**FILL MATERIAL:** 0.0'-0.75': Topsoil, roots Brown f SAND and f GRAVEL, matrix supported, angular to subangular, dry.	1	0-2	1.3	3-6-10-9	16	FILL MATERIAL	
2										
3	SS		Brown dense CLAY, little f Gravel, dry, matrix supported , iron stained slag at bottom of spoon, evidence of coal	2	2-4	1.3	14-17-16-19	33		
4										
5	SS		4.0'-4.2': Black/Brown f-c SAND 4.2'-4.4': Grey weathered rock fragments, horizontal fractures 4.4'-4.5': Black/Red rock fragments 4.5'-4.7': Grey rock fragments, angular 4.7'-5.0': Red c SAND and f GRAVEL, stained	3	4-6	1.2	25-30-14-12	44		
6										
7	SS		Brown dense f-c SAND, little f Gravel, matrix supported, some iron staining, weathered rock fragments, horizontal fractures @ 8-11", turns to Brown f-c SAND at bottom of spoon.	4	6-8	1.3	12-14-16-20	30		
8										
9	SS		**SAND AND GRAVEL:** Brown f-c SAND, little f Gravel, angular to subangular, dry, loose. Transitions to Grey Siltstone/Shale rock fragments, horizontally fractured, subrounded.	5	8-10	1.3	9-16-14-18	30	SAND AND GRAVEL	
10										
11	SS		Brownf f-c SAND, little f Gravel, slightly moist, not matrix supported, bottom 10" weathered rock fragments, horizontally fractured, some f-c Sand.	6	10-12	1.2	16-14-15-16	29		
12										
13	SS		Brown f-c SAND, some f Gravel, Grey rock fragments noted at 8-12", horizontally fractured, dry, loose.	7	12-14	1.4	16-15-10-10	25		
14										
15	SS		Brown f-c SAND, some f-m Gravel, angular to subangular, pebbles at bottom, dry, loose, rock fragments in bottom of shoe, quartz and red sandstone fragments noted.	8	14-16	1.0	9-11-8-14	19		
16										
17	SS		Brown f-c SAND, little f-m Gravel. Bottom 4" weathered rock fragments, Grey/Brown, possible iron staining at bottom.	9	16-18	0.8	11-8-4-5	12		
18										
19	SS		Brown Silty CLAY, some f Gravel, angular, slightly moist, iron oxidation, dry, loose, f-m sand @ 10-13", weathered shale in bottom of shoe, oxidation noted in fractures.	10	18-20	1.3	7-4-11-19	15		
20										

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-06

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
20			**BEDROCK:**							Bedrock @ 20.0'
21	SS		Weathered Grey Sandstone/Shale, oxidation, horizontal fractures.	11	20-22	0.7	100/0.3			Spoon refusal @ 20.3'
22										Auger refusal @ 22.5'
23										Rollerbit to 23.5'
24			Black Shale/Siltstone, highly fractured, both horizontal and vertical fractures, signs of oxidation, thinly bedded, weathered fracture surfaces, becoming more competent @ about 28.5 feet.							
25										Top of Choker Sand 24.5'
26										Top of Bentonite Seal 25;
27										
28	HQ			12	23.5-33.5	100.0		27.5%		Bottom of well @ 55'
29										Top of Choker Sand 28'
30										Top of Filter Pack 28.5'
31										
32										Top of Screen 31.5'
33										
34			Black Shale/Siltstone, horizontal fractures, no signs of oxidation, fossils present, mechanical break @ 37 feet.							
35										
36										
37										
38	HQ			13	33.5-43.5	99.0		98%		
39										
40										
41										Bottom of Screen 41.5'
42										Top of Choke Sand 42.2'
43										Top of Bentonite Chips 43'
44			Black Shale/Siltstone, horizontal fractures, no signs of water movement, one six-foot section (mechanically broken)							
45										
46										
47	HQ			14	43.5-53.5	100.0		94%		
48										
49										
50										

BEDROCK

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-06

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
50			**BEDROCK:**							
51										
52										Bentonite chips
53										
54			Black Shale/Siltstone, hoizontal fractures, thinly bedded, no visible signs of water movement							
55										
56										
57										
58										
59	HQ			15	53.5-63.5	97.5		96%	**BEDROCK**	
60										
61										
62										
63										End of core @ 63.5'
64										
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										

SUBSURFACE INVESTIGATION LOG

BORING NO. **MW-07**

Project No. **1307.002.001**

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Ithaca Falls Overlook - Environmental Restoration Project	**Drilling Co:**	GeoLogic, NY Inc.
Client:	City of Ithaca	**Driller:**	Scott & Taylor
Site Location:	125 Lake Street, Ithaca, New York	**Rig Type:**	Truck Mounted Auger Rig
Job No:	1307.002.001	**Drilling Method(s):**	4.25" ID HSA
Project Manager:	David R. Hanny	**Hammer Wt/Drop:**	140 lb/ 30 in
Logged By:	LJK	**Hammer Type:**	Automatic
Dates Drilled	8/31/2012-9/19/2012	**Borehole Diam:** 8.0"	**Total Depth:** 72.0'
LOCATION INFORMATION		**WELL INFORMATION**	
Horiz. Datum: NYSP NAD 1983 (FT)	**Easting:** 844213.20	**Ground Elevation:** 432.66 (flush mount)	**Screen Type/Diam:** 2" dia. PVC
Vert. Datum: NAVD 1988 (FT)	**Northing:** 893437.30	**Top PVC Elevation:** 432.38	**Slot Size:** 0.010"

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-07

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
1	SS		**FILL MATERIAL:** 0-3": Topsoil Grey/Brown f-c SAND, some f-m Gravel Black 1" section sand material 0.7ppm @ 8"	1	0-2	1.4	8-14-18-20	32	FILL MATERIAL	
3	SS		Brown f-c SAND, little Gravel, dry, loose, bottom 2" weathered rock fragments, horizontally fractured.	2	2-4	1.1	18-17-15-20	32		
5	SS		Brown f-c SAND, some f-m Gravel, weathered rock fragments interspersed from 4.4' to 4.83', slightly moist, loose.	3	4-6	0.8	11-15-8-8	23		
7	SS		Top 5" Brown f-c SAND, little f-m Gravel, turns to Brown/Grey f-c SAND, some Gravel, angular to subangular, loose, dry.	4	6-8	1.8	11-10-8-6	18		
9	SS		8'-8.4': Black/Brown f-c SAND, coal(?) fragments **SAND AND GRAVEL:** Above transitions to Grey/Brown f-c SAND, some Gravel, subangular to rounded, weathered rock fragments, loose dry	5	8-10	1.2	8-10-12-10	12	SAND AND GRAVEL	
11	SS		Same as above, rounded pebbles	6	10-12	1.2	9-10-14-12	14		
13	SS		Same as above, weathered rock fragments, rounded pebbles. Bottom 2" turns to Tan SAND with SILT, matrix supported with fine Gravel in between, dense, dry, broken angularly.	7	12-14	1.7	10-12-18-20	30		
15	SS		Weathered rock fragments transitions to Tan f-c SAND, some fm Gravel, subrounded to rounded, brachiopods noted, dry	8	14-16	1.0	22-16-18-19	34		
17	SS		No recovery- rock stuck in shoe (limestone fragment?)	9	16-18	NR	25-18-20-27	38		
19	SS		Tan/Brown SAND, some f-c Gravel/Cobbles, subangular to subrounded, loose, dry, not matrix supported.	10	18-20	1.2	20-16-14-18	30		

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-07

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / Well Construction
20			**SAND AND GRAVEL:**						SAND AND GRAVEL	
21	SS		20'-20.4': Tan/Brown SAND, some loose f-m Gravel, subangular to rounded, dry. Transitions to weathered rock fragments, horizontal fractures. Bottom 2" Brown/Tan f SAND, loose, dry.	11	20-22	1.5	22-20-17-14	37		
22										
23	SS		22.0'-23.0': Brown f-c SAND, some f-m Gravel, angular to subangular, horizontally fractured. 23.0'-23.4': Brown f-m SAND 23.4'-24.0': Brown c SAND and f-m GRAVEL, loose, dry, not matrix supported.	12	22-24	2.0	17-14-19-18	33		
24										
25	SS		22'-22.16': weathered rock fragments, horizontally fractured 22.16'-22.67': Brown f-c SAND, little Gravel, angular 22.67'-22.83': weathered rock fragments 22.83'-23.6: Grey/Brown c SAND and f-m GRAVEL, angular to subangular, loose, dry, not matrix supported.	13	24-26	1.5	20-12-14-12	26		
26										
27	SS		26'-26.16': weathered rock fragments 26.16'-27': Brown f-c SAND and f GRAVEL, loose, dry, not matrix supported 27'-27.5': f-m GRAVEL, trace f-c Sand, dry, loose 27.5'-27.75': Brown f SAND, little f Gravel, slightly moist	14	26-28	1.8	14-16-10-14	26		Bottom of well @ 55'
28	SS		(28.0-28.6) Top 6" Brown f-c SAND, some f-m Gravel, angular to	15	28-30	0.8	100/0.5			Spoon refusal @ 28.6'
29			**BEDROCK:** Bottom 3" weathered bedrock, grey, horizontally fractured						BEDROCK	
30										
31	SS		(30.0-30.45) Brown f-c SAND, some f-m Gravel, loose, dry. Bottom 2" Brown f SAND, dense, little f Gravel, angular, dry.	16	30-32	0.6	100/0.45			
32										Auger to 32.5'
33										Set socket 1.5' into bedrock by auger
34	HQ		Black Shale/Siltstone, no signs of oxidation, thinly bedded, moderately fractured, clean fractures with slight weathering, horizontal bedding, fossils present, mechanical break @ 35.5' to fit in box.	17	32-37	96%		77%		Top of Bentonite Seal 33.5'
35										
36										
37										Top of Choker Sand 36.5'
38	HQ		Black Shale/Siltstone, signs of slight oxidation at 37.2' and 39.5', slightly fractured, clean horizontal bedding with slight weathering on fractures, mechanical break @ 41.8', few loose fragments at site of oxidation.	18	37-42	100%		90%		
39										
40										Top of Screen 40'
41										
42										
43	HQ		Black Shale/Siltstone, signs of oxidation @ 42.5', thinly bedded, clean horizontal fractures, some signs of sediment on fractures, mechanical break at 45.0' and very bottom, fossils present.	19	42-52	100%		98%		
44										
45										
46										
47										
48										
49										
50										Bottom of Screen 50'

Barton & Loguidice, P.C. ITHACA FALLS OVERLOOK - ENVIRONMENTAL RESTORATION PROJECT BORING NO: MW-07

Depth	Sample Type	USCS	Description	Sample No.	Sample Int (ft).	Recovery (ft)	Blows Per 6"	N or RQD %	Lithology	Notes / *Well Construction*
50			**BEDROCK:**						BEDROCK	
51										Top of Choker Sand 51'
52			Black Shale/Siltstone, mechanical break at 54.0', thinly bedded, clean horizontal fractures, some signs of sediment on fractures.							Top of Bentonite Chips 52'
53										
54										
55										
56										
57	HQ			20	52-62	99%		100%		
58										
59										
60										
61										
62			Black Shale/Siltstone, no signs of oxidation or water, cross bedding, horizontal fractures, slight weathering on fracture surfaces, fossils present.							
63										
64										
65										
66										
67	HQ			21	62-72	99%		97%		
68										
69										
70										
71										
72										End of core @ 72'
73										
74										
75										
76										
77										
78										
79										
80										

APPENDIX D

EXCAVATION WORK PLAN (EWP)

D-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix A.

Table 1: Notifications*

Name	Contact Information
Gary Priscott NYSDEC Project Manager	(607) 775-2545 Gary.priscott@dec.ny.gov
Harry Warner, P.E. NYSDEC Regional HW Engineer	(315) 426-7551 harry.warner@dec.ny.gov
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 kelly.lewandowski@dec.ny.gov

**Note*: *Notifications are subject to change and will be updated as necessary.*

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix D of this SMP;
- Identification of disposal facilities for potential waste streams; and

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

D-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section B-6 of this Appendix.

D-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Straw bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

D-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

D-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows will be identified in the pre-excavation notification. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

D-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

D-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Material reuse on-site will comply with the requirements of NYSDEC DER-10 Section 5.4(e)(4). Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

D-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream or river) will be performed under a SPDES permit.

D-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Record of Decision. The existing cover system is comprised of a minimum of 24 inches of clean soil. The demarcation layer, consisting of orange snow fencing or equivalent material will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

D-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. The requirements for backfill used at the site should be consistent with the backfill requirements provided in DER-10. A Request to Import/Reuse Fill or Soil form, which

can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

D-11 STORMWATER POLLUTION PREVENTION

Barriers and straw bale checks (or equivalent) will be installed and inspected once a week and after every storm event. Erosion and sediment control practices shall be installed and maintained in accordance with the current version of the NYS Standards and Specifications for Erosion and Sediment Control. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and straw bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or straw bales will be installed around the entire perimeter of the construction area. Additional erosion and sediment control practices shall be utilized as needed to ensure compliance with water quality standards.

D-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

D-13 COMMUNITY AIR MONITORING PLAN

Air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan and the Health and Safety Plan (Appendix F of this SMP). Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

D-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

D-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

D-16 OTHER NUISANCES

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX E

HEALTH AND SAFETY PLAN

Ithaca Falls Overlook
City of Ithaca Urban Renewal Agency
Tompkins County, New York

Environmental Restoration Project
ERP # E755018

Appendix E

Health and Safety Plan

April 2016

Barton & Loguidice

Table of Contents

Table of Contents – Continued

SectionPage

Tables

Attachments

1.0 General Information

1.1 Introduction

The purpose of this Health and Safety Plan is to provide specific guidelines and establish procedures for the protection of personnel during the site activities. This Plan is subject to modification as data are collected and evaluated.

All personnel conducting activities on-site must comply with all applicable Federal and State rules and regulations regarding safe work practices. Personnel conducting field activities must also be familiar with the procedures, requirements and provisions of this Plan. In the event of conflicting Plans and requirements, personnel must implement those safety practices that afford the highest level of protection.

This HASP is not intended to be used by any subcontractors, but it may be used as the basis for contractors to prepare their own plans. This HASP may not address the specific health and safety needs or requirements of subcontractors and should be viewed as the minimum requirement.

2.0 Project Information

2.1 Organization Structure

Barton & Loguidice:

Program Manager – Scott D. Nostrand, P.E.

Project Manager – David R. Hanny

City of Ithaca:

Project Contact: Nels Bohn, Directory of Community Development, Ithaca Urban Renewal Agency

The Project Manager is responsible for the day-to-day activities of the project and for coordinating between office and field personnel. The Project Manager will oversee the Site Investigation activities. The Project Manager will also serve as the Site Safety and Health Coordinator (SSHC). The SSHC will establish operating standards and coordinate overall project safety and health activities for the site. The SSHC will review project plans and revisions to determine that safety and health procedures are maintained throughout the project. Specifically the responsibilities of the SSHC include:

a. Aiding the selection of protective clothing and equipment.

b. Periodically inspecting protective clothing and equipment.

c. Maintaining proper storage of protective clothing and equipment.

d. Monitoring the workers for signs of heat stress, cold stress, and fatigue.

e. Monitoring on-site hazards and conditions.

f. Conducting periodic surveillance to evaluate effectiveness of Site-specific Health and Safety Plan.

g. Having knowledge of emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.

h. Posting the directions to the hospital and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.

i. Notifying, when necessary, local public emergency officials.

j. Coordinating emergency medical care.

Field personnel will assist with responsibilities of the SSHC when the Project Manager is not on-site. The Project Manager will be responsible for ensuring that the field personnel are familiar with the contents of this plan and the roles of the SSHC.

3.0 Health and Safety Risk Analysis

Table B-1 breaks down the hazard types that may be encountered for the site activities.

Table E-1
Site Investigation Activity Hazard Evaluation

	Hazard Type					
Activity	**Mechanical**	**Electrical**	**Chemical**	**Physical**	**Biological**	**Temperature**
Site Inspections	Accidental injury from sampling equipment	Exposed cords and broken lights	Accidental inhalation, ingestion, skin absorption or eye contact with contaminants	Cuts from broken glass, slips, trips and fall hazards. Working on steep slopes.	Bees and wasps. Poisonous plants	Heat Stress Frost Bite
Source Area Excavation and Slope Stabilization	Accidental injury from excavation equipment.	Buried power lines	Accidental inhalation, ingestions, skin absorption or eye contact with contaminants	Collapse of excavation structure. Puncture from buried objects/nails. Excessive noise. Fall hazards. Working on steep slopes. Falling objects.	Bees and wasps. Poisonous plants	Heat Stress Frost Bite

3.1 Chemical Hazards

The contaminants that have been detected at the site are listed in table B-2 on the following page.

3.2 Physical Hazards

Physical hazards associated with the site are:

1. *Slip, Trip, and Fall During All Activities (Uneven Terrain):* Hazardous waste sites contain numerous potential safety hazards such as: holes, ditches, drums, boards, nails, broken glass, slippery surfaces, steep grades, and uneven terrains. The site is in close proximity to the Raceway, gorge, and various steep slopes. The work itself may be a potential safety hazard. Site personnel should constantly look out for potential safety hazards and should immediately inform the SSHC of any new hazards.

   At a minimum, two employees will be on site at all times, and employees working on steep slopes shall wear personal fall arrest systems in compliance with the OSHA Fall Protection Standard, 29 CFR 1926, Subpart M. Employees will be trained to use personal fall arrest systems prior to use.

2. *Moving Parts of Heavy Equipment:* Heavy equipment poses dangers though moving parts. Where feasible, access to moving parts will be guarded and equipment will be equipped with backup alarms.

Table E-2 Assessment of Chemicals of Potential Concern						
Chemical Name	**PEL/TLV**	**Other Pertinent Limits (Specify)**	**Warning Properties – Odor Threshold**	**Potential Exposure Pathways**	**Acute Health Effects**	**Chronic Health Effects**
Decontamination Materials:						
Isopropyl Alcohol (for decontamination, if necessary)	400 ppm/ 400 ppm	STEL = 500 ppm IDLH = 2000 ppm	Colorless liquid with the odor of rubbing alcohol	Inhalation, Absorption, Ingestion, Contact	Eye, skin & respiratory irritation; headache, drowsiness, dizziness, dry cracking skin	Dermatitis
METHANOL (FOR DECONTAMINATION, IF NECESSARY)	200 ppm/ 200 ppm	IDLH = 6000	Colorless liquid with a pungent odor – 141 ppm	Inhalation, Absorption, Ingestion, Contact	Irritation of eyes, skin, respiratory system, headache, drowsiness, dizziness, vertigo, light-headedness, nausea, vomiting, visual disturbances	Optic nerve damage, dermatitis, damage to respiratory system and GI tract
VOCs:						
BENZENE	1 ppm/ 0.5 ppm	STEL=5 ppm IDLH=500 ppm	Colorless to light yellow liquid with an aromatic odor – 8.65 ppm	Inhalation, Absorption, Ingestion, Contact	Eye, skin, nose & respiratory irritation; nausea, headache, staggered gait, fatigue, anorexia, weakness, exhaustion	Carcinogen, dermatitis, bone marrow depression, damage to the eyes, respiratory system. CNS
Tetrachloroethene	100 ppm/ 25 ppm	C=200 ppm STEL (5 min)=300 ppm IDLH=100 ppm	Colorless to pale yellow liquid with a pungent, chloroform-like odor	Inhalation, Absorption, Ingestion, Contact	Irritation of eyes, nose, throat; nausea; flushing of face and neck; vertigo, dizziness, incoherence; headache, somnolence; skin erythema	Liver damage. Target organs: eyes, skin, respiratory system, liver, kidneys, CNS.

Table E-2
Assessment of Chemicals of Potential Concern

Chemical Name	PEL/TLV	Other Pertinent Limits (Specify)	Warning Properties – Odor Threshold	Potential Exposure Pathways	Acute Health Effects	Chronic Health Effects
TAL Metals:						
Antimony	0.5 mg/m^3/ 0.5 mg/m^3	IDLH=50 mg/m^3	Silver-white, lustrous, hard, brittle solid; scale-like crystals; or a dark-gray, lustrous powder.	Inhalation, Absorption, Ingestion, Contact	Eye, skin, and respiratory tract irritation; cough, dizziness; headache; nausea; vomiting; diarrhea; stomach cramps.	Damage to eyes, skin, respiratory system, cardiovascular system; insomnia; anorexia; loss of sense of smell.
Arsenic	0.5 mg/m^3/ 0.01 mg/m^3	IDLH=5 mg/m^3	Silver-gray or tin-white, brittle, odorless solid.	Inhalation, Absorption, Ingestion, Contact	Ulceration of nasal septum, gastrointestinal disturbances, peripheral neuropathy.	Carcinogenic, damage to liver, kidneys, skin, lungs, and lymphatic system.
Cadmium	0.1 mg/m^3 / 0.01 mg/m^3	IDLH=9 mg/m^3	Blue-tinged silver-white, lustrous, odorless solid.	Inhalation, Ingestion	Respiratory tract irritation and high acute toxicity.	Kidney, liver, lung, bone, blood, immune system, and CNS damage.
Chromium	1 mg/m^3 / 0.5 mg/m^3	IDLH =250 mg/m^3	Blue-white to steel-gray, lustrous, brittle, hard, odorless solid.	Inhalation, Ingestion, Contact	Irritation of eyes and skin.	Lung fibrosis (histologic).
Copper	1 mg/m^3/ 1 mg/m^3	IDLH=100 mg/m^3	Reddish, lustrous, malleable, odorless solid.	Inhalation, Ingestion, Contact	Eye, nose, pharynx irritation; nasal perforation; metallic taste; dermatitis.	Target organs: Eyes, skin, respiratory system, liver, kidneys (increased risk with Wilson's disease).

Table E-2 Assessment of Chemicals of Potential Concern						
Chemical Name	**PEL/TLV**	**Other Pertinent Limits (Specify)**	**Warning Properties – Odor Threshold**	**Potential Exposure Pathways**	**Acute Health Effects**	**Chronic Health Effects**
Iron	10 mg/m^3/ 5 mg/m^3	IDLH=2500 mg/m^3	Silver to gray odorless solid, sometimes with a thin layer of reddish dust.	Inhalation, Ingestion, Contact	Irritation of the respiratory tract, gastrointestinal tract, and eyes. Liver damage and death possible with extreme ingestion.	Siderosis (lung damage), cardiac damage.
Lead	0.05 mg/m^3 / 0.05 mg/m^3	IDLH=100 mg/m^3	A heavy, gray ductile, soft solid	Inhalation, Absorption, Ingestion, Contact	Weakness, lassitude, insomnia, facial pallor	Encephalopathy, kidney disease, hypotension.
Magnesium	15 mg/m^3 / 10 mg/m^3	IDLH=750 mg/m^3	Odorless, silver-white solid.	Inhalation, Contact	Irritation of eyes and skin; metal fume fever, with chills, fever, coughing, nausea, vomiting, weakness.	Lung damage.
Manganese	5 mg/m^3 / 0.1 mg/m^3	IDLH=500 mg/m^3	Silvery, lustrous, brittle, odorless solid.	Inhalation, Ingestion	Irritation of skin.	Respiratory system, CNS, blood, kidney damage.
Mercury	0.1 mg/m^3 (C)/ 0.025 mg/m^3	IDLH = 10 mg/m^3	Silver-white, odorless, heavy liquid	Inhalation, Absorption, Ingestion, Contact	Irritation of eyes; cough, chest pain, dyspnea, bronchial neuritis; tremor, insomnia, irritability, indecision, headache, fatigue, weakness; stomatitis, salivation.	Gastrointestinal disturbances, anorexia, proteinuria. Target organs include eyes, skin, respiratory system, central nervous system, and kidneys.

Table E-2
Assessment of Chemicals of Potential Concern

Chemical Name	PEL/TLV	Other Pertinent Limits (Specify)	Warning Properties – Odor Threshold	Potential Exposure Pathways	Acute Health Effects	Chronic Health Effects
Sodium	Not available	Not available	Light, soft, silvery, odorless solid.	Absorption, Ingestion, Contact	Irritation and inflammation of the eyes and skin.	Damage to mucous membranes and upper respiratory tract.
ZINC	5 mg/m^3/ 2 mg/m^3	IDLH = 500 mg/m^3	Bluish-gray, lustrous, odorless solid.	Inhalation, Ingestion, Contact	Irritation of the eyes and skin; metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough, weakness; metallic taste; headache; blurred vision; vomiting; tightness in chest, dyspnea, rales, decreased pulmonary function.	Respiratory system effects such as lung damage and bronchitis. Suspected carcinogen.

PEL = OSHA Permissible Exposure Limit; represents the maximum allowable 8-hour time-weighted average (TWA) exposure concentration.
TLV = ACGIH Threshold Limit Value; represents the maximum recommended 8-hour TWA exposure concentration.
STEL = OSHA Short-term Exposure Limit; represents the maximum allowable 15-minute TWA exposure concentration.
C = OSHA Ceiling Limit; represents the maximum exposure concentration above which an employee shall not be exposed during any period without respiratory protection.
IDLH = Immediately Dangerous to Life and Health; represents the exposure likely to cause death or immediate delayed permanent adverse health effects or prevent escape from such an environment

3. *Noise from Heavy Equipment:* Work around large equipment often creates excess noise. Engineering controls and personal protective equipment will be used to protect employees' hearing.

4. *Electrical Hazards:* As in all site work, overhead power lines, electrical wires and cables, site electrical equipment, and lightning also pose a potential hazard to site workers. Site personnel should constantly look out for potential safety hazards and should immediately inform the SSHC of any new hazards.

5. *Biological Hazards (insects, poison ivy, etc.):* Other biological hazards that may be present at hazardous waste sites include poisonous plants, insects, and animals. PPE can reduce the potential for exposure. The SSHC can assist in determining the correct PPE for the hazard present.

3.3 Heat and Cold Stress

Workers will be routinely observed by the SSHC for symptoms of heat stress or cold exposure, as dictated by the weather conditions and work being conducted. Heat stress and cold exposure can be avoided by periodic, regular rest breaks.

Heat stress may be a potential hazard for personnel wearing PPE, particularly working in hot and humid conditions. Workers should take regular rest breaks within a shaded area, removing their PPE, and drink electrolyte replacing liquids and/or water. The SSHC is responsible for scheduling the amount of time each individual can work under the existing site conditions, and how often and how long they will break. Workers will be required to take their breaks in the clean zone after going through the decontamination area, or they may undergo partial decontamination and rest in a clean area within the decontamination area.

Personnel working in cold conditions will be required to wear warm, dry clothing. Workers must be aware of their extremities during cold conditions, particularly their face, ears, fingers, and toes, in order to avoid frostbite. If at any point should a worker feel

numbness or tingling sensation in their extremities, they should return to the clean zone and to a warm area.

3.4 Confined Space Entry

It is not anticipated that Barton & Loguidice (B&L) employees will enter confined spaces. If B&L employees do enter confined spaces, then the employees will conduct all permit required confined space entry in compliance with a permit space program meeting the requirements of the Occupational Safety and Health Administration (OSHA) regulation 1910.146.

The Contractor may be required to enter confined spaces for tank cleaning purposes. Coordination with the Project Manager shall be made prior to any entry of a permit required confined space. The Contractor must conduct all permit required confined space entry in compliance with a permit space program meeting the requirements of the Occupational Safety and Health Administration (OSHA) regulation 1910.146.

Excavations do pose a potential confined space entry area. When an excavation becomes a confined space entry area (greater than 4 feet deep), then permit-required confined space entry procedures will be followed should the excavation need to be entered. In addition, air monitoring for oxygen deficiency, LEL, and organic vapors will be performed should the excavation be greater than 4 feet deep. Attempts will be made to collect samples from the excavation without entering the excavation (i.e., from excavator bucket, sampling rods, etc.).

4.0 MEDICAL SURVEILLANCE PROGRAM

4.1 General

OSHA in 29 CFR 1910.120, the Hazardous Waste Operations regulations and in 1910.134, the Respiratory Protection regulations, requires medical examinations. The examination may include the OSHA required Medical Questionnaire, Respirator Suitability Form, a Medical Examination, Audiology Test, Pulmonary Function Test, and testing for complete blood count and chemistry profile.

These medical examinations and procedures are performed by or under the supervision of a licensed physician. The medical monitoring is provided to workers free of cost, without loss of pay and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after any apparent over-exposure incident.

Employees who wear, or may wear, respiratory protection will be provided respirators as regulated by 29 CFR 1910.134 before performing designated duties. Prior to issuance of a respirator, a medical professional must have medically certified the individual's ability to wear respiratory protection. Where the medical requirements of 29 CFR 1910.120 overlap those of 29 CFR 1910.134, the more stringent of the two will be enforced. It is not anticipated the respirator use will be required at the site.

Although the site is not classified as a hazardous waste site, employees who work during field activities will be subject to the medical surveillance program for lead monitoring. A baseline lead test will be conducted prior to field activities and at the conclusion of the Site Investigation.

4.2 Frequency

1. *Baseline Examinations:* Individuals who are assigned temporarily or permanently to fieldwork at hazardous waste sites or the use of a respirator will receive a baseline examination prior to job assignment.

2. *Periodic Examinations:* Individuals who are assigned temporarily or permanently to fieldwork at hazardous waste sites or the use of a respirator will receive periodic examinations as required.

3. *Termination Examinations:* Field employees permanently leaving the company whom were in the medical surveillance program will receive an exit examination.

4. *Possible Exposure Examinations:* As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that employee has been injured or exposed above the permissible exposure limits in an emergency situation, that employee will be required to receive medical attention.

4.3 Examination Results

A letter must be received from the attending physician stating the parameters of the examination and whether or not the individual is able to work with or without restriction. This letter will be filed in the employee's file and a copy distributed to the employee. The examining physician makes a report to B&L of any medical condition that would place B&L employees at increased risk when wearing a respirator of other personal protective equipment. B&L maintains the medical records of personnel, as regulated by 29 CFR 1910.120 and 29 CFR 1910.1020, where applicable.

5.0 TRAINING PROGRAM

5.1 Hazardous Waste Operations Health and Safety Training

Employees who are assigned to perform duties on hazardous waste sites will receive the OSHA initial 40-hour health and safety training prior to on-site activities, in accordance with 29 CFR 1910.120 (e). In addition, such personnel provide documentation of having received three (3) days of supervised field experience applicable to this site, or receive three (3) days of supervised field experience at this site. Applicable employees will receive yearly 8-hour refresher courses. On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 (eight) additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

Although the site is not classified as a hazardous waste site, employees who work during field activities may be required to attend HAZWOPER initial and refresher training.

5.2 Additional Training

As site activities change, supplemental training will be provided to employees to address changes in identified hazards, risks, operations procedures, emergency response, site control, and personal protective equipment. Specialty training will be provided as determined by task and responsibility.

Site specific training will be provided to each employee and will be reviewed at safety briefings. Specialized training will be provided as dictated by the nature of site activities. Specialized training will be provided for activities such as the handling of unidentified substances. Employees involved in these types of activities will be given off-site instruction regarding the potential hazards involved with such activities and the appropriate health and safety procedures to be followed. Off-site instruction is meant to include any areas where employees will not be exposed to site hazards.

5.3 Other Required Training

Other training that may be required by workers that is in addition to required training described above is detailed below:

- Hazard communication, in accordance with 29 CFR 1910.1200
- Respirator use, in accordance with 29 CFR 1910.134
- Hearing conservation, in accordance with 29 CFR 1910.95
- Working safely around heavy equipment
- Heat and cold stress prevention
- Confined space entry, in accordance with 289 CFR 1910.146

5.4 Pre-Entry Briefing

A site-specific briefing is provided to all individuals, including site visitors, who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

The SSHC will brief personnel as to the potential hazards likely to be encountered. Topics will include:

- Availability of this HASP.
- General site hazards and specific hazards in the work areas including those attributable to the chemicals present.
- Selection, use, testing and care of the body, eye, hand and foot protection being worn, with the limitations of each.

- Decontamination procedures for personnel, their personal protective equipment and other equipment used on the site.
- Emergency response procedures and requirements.
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed.
- Methods to obtain emergency assistance and medical attention.

5.5 Training Records

This site maintains written certification of the successful completion of applicable training requirements for each worker. Training records are maintained up-to-date and are retained onsite. Written certificates have been given to each person so certified. Additionally, an employee sign off sheet indicating that each worker has reviewed a copy of this HASP and understands its contents is stored at the same location.

6.0 HEALTH AND SAFETY FIELD IMPLEMENTATION

6.1 Personal Protective Equipment Requirements

Level D protection will be worn for initial entry on-site. Modified Level D protection will be used for sampling and decontamination activities. All personnel will upgrade the level of personal protection to Level C based upon sustained (five (5) minutes or more) air monitoring action levels. The requirements for personal protective equipment are outlined in table B-3.

Table E-3
Personal Protective Equipment (PPE) Requirements

Job Tasks	Level of Protection	PPE						
		Suit	Gloves	Feet	Head	Eye	Ear	Respirator
All on-site	D	Std.	Work	Steel	HH	Glasses/Goggles	Plugs/ Muffs	N/A
Sampling	Modified D	Std.	Neoprene or Nitrile	Steel + Booties	HH	Glasses/Goggles	Plugs/ Muffs	N/A
Decon	Modified D	Std.	Butyl or Viton	Steel + Booties	HH	Goggles	Plugs/ Muffs	N/A
All on-site (Upgrade)	C	PE Tyvek	Neoprene or Nitrile	Steel + Booties	HH	N/A	Plugs/ Muffs	Full APR w/OV& N100

Personal Protective Equipment

SUIT:
Std = Standard Work Clothes
PE Tyvek = Polyethylene-coated Tyvek

FEET:
Steel = Steel-toe Boots
Booties = PVC or Latex Booties

HEAD:
HH = Hard Hat

EYE:
Glasses = Safety Glasses w/side shields
Goggles = Safety Goggles

Personal Protective Equipment

EAR:
Plugs = Ear Plugs
Muffs = Ear Muffs

RESPIRATOR:
APR = Air-purifying respirator
Full APR = Full-face APR
OV = Organic vapor cartridge
N100 = N100 particulate filters

6.2 Air Monitoring Procedures

The Project Manager or designee will conduct air monitoring in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan. Direct reading instruments will be calibrated in accordance with manufacturer's requirements and the results of the calibration will be documented.

This Community Air Monitoring Plan (CAMP) sets forth the procedures for performing real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area with respect to specific activities to be completed as part of the remedial investigation. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses, and on-site or nearby workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Continuous monitoring will be required for all subsurface intrusive activities performed during the remedial investigation**.** Subsurface intrusive activities include soil excavation and handling. The CAMP will be limited to heavy equipment operation and intrusive activities such as soil excavation and handling and the western Island slope stabilization. The CAMP is not proposed for minimal disturbances such as soil sampling or well installation.

VOCs will be monitored during intrusive site activities at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds five (5) parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below five (5) ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of five (5) ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below five (5) ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings will be recorded and available for New York State Department of Environmental Conservation (NYSDEC) and NYSDOH personnel to review. Instantaneous readings, if any, used for decision making purposes will also be recorded.

Particulate concentrations will also be monitored continuously at the upwind and downwind perimeters of the exclusion zone or work area. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action

level. In addition, fugitive dust migration will be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques if downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and if no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and available for NYSDEC and NYSDOH personnel to review.

Table E-4 **Monitoring Protocols and Contaminant Action Levels**				
			Breathing Zone* **Action Level Concentrations**	
Contaminant/ Atmospheric Condition	**Monitoring Equipment**	**Monitoring Protocol**	**Monitored Level For Mandatory Respirator Use****	**Monitored Level For Mandatory Work Stoppages*****
VOCs	Photoionization detector (PID) with an 11.7 eV lamp	Continuous monitoring for all ground-intrusive activities with equipment capable of calculating 15-minute running average concentrations.	5 ppm above background for 15-minute running average	5 ppm above background (15-minute running average) temporary, 25 ppm for mandatory shutdown
Particulates	MiniRam or Dusttrak or equivalent	Continuous monitoring for all ground-intrusive activities with equipment capable of calculating 15-minute running average concentrations.		150 ug/m^3 at fence line (institute engineering controls to control dust at 100 ug/m^3)
*Monitoring performed in the breathing zone for sustained readings of 5 minutes or more. Monitor source first; if the source is near or above the action level concentration, monitor in the breathing zone. **Monitored levels will require the use of approved respiratory protection specified in table B-3. ***Consult the Project Manager.				

6.3 Decontamination Procedures

Depending on the specific job task, decontamination may include personnel themselves, tools, and/or heavy equipment. The specified levels of protection for a task (A, B, C, or D) does not itself define the extent of personal protection or equipment decontamination. For instance, Level C without dermal hazards will require less decontamination than Level C with dermal hazards. Heavy equipment will always require

decontamination to prevent cross-contamination. The following sections summarize general decontamination protocols.

6.3.1 Heavy Equipment

Heavy equipment will be decontaminated prior to personnel decontamination. Heavy equipment will have their drilling rods, augers and/or buckets steam cleaned after use, preferably at locations near the individual drilling/excavation operations. Containment systems will be set-up for collection of decon fluids and materials. Berms and wind barriers will be set up, if appropriate.

Vehicles that become contaminated with suspect soil will be cleaned prior to leaving the site. The wheel wells, tires, sides of vehicles, etc. will be high-pressure washed at a location to be determined by the SSHC.

6.3.2 Personnel

In general, decontamination involves scrubbing with a non-phosphate soap/water solution followed by clean water rinses. Disposable items will be disposed of in a dry container.

Reusable protection will be washed with soap and clean potable water and air-dried prior to storage. Dirt, oil, grease or other foreign materials that are visible will be removed from surfaces. Scrubbing with a brush may be required to remove materials that adhere to the surfaces. Certain parts of contaminated respirators, such as harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush.

The following decontamination protocol will be used, as appropriate to the level of PPE being used:

- Drop hand tools and equipment in the designated decontamination area.
- Either wash outer rubber boots or dispose of booties.
- Rinse outer boots.
- Wash and rinse outer gloves.
- Remove outer boots and gloves, dispose gloves if necessary.
- Replace cartridges if required.
- Remove and dispose Tyvek coverall.
- Remove respirator, dispose cartridges as required.
- Personnel should wash their respirator at the end of each workday.

6.3.3 Decontamination Wastes

Decontamination wash and rinse waters will be collected and disposed of according to the applicable regulatory guidelines.

- Spent decontamination solutions may be required to be drummed and disposed of as hazardous waste and/or solvent solutions may be required to be segregated from water rinses.
- Decontamination shall be performed in a manner that minimizes the amount of waste generated.

7.0 Site Operating Procedures

The following is a list of the general guidelines required for the Ithaca Falls Overlook site.

All field investigation activities must be coordinated through the Project Manager.

At least two (2) persons must be present who are in constant communication with each other during any activity conducted on-site in which a potential exists for exposure to hazardous materials, accident or injury.

Samples obtained from areas known or suspected to contain contaminated substances or materials must be handled with appropriate personal protection equipment.

All equipment used to conduct the Site Investigation must be properly decontaminated and maintained in good working order. Equipment must be inspected for signs of defects and/or contamination before and after each use.

Eating, drinking, chewing gum, and smoking are prohibited within the Site Activity Zone and the Decontamination Zone.

The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated will result in the evacuation of the activity zone until a complete evaluation of the hazard can be performed.

7.1 Daily Operating Procedures

The following are the daily operating procedures that are to be followed by all on-site personnel:

- Hold Tailgate Safety Meetings prior to work start and as needed thereafter (suggest daily; however, minimum of weekly).

- Use monitoring instruments and follow designated protocol and contaminant action levels.
- Use PPE as specified.
- Use hearing protection if noise levels exceed 85 dBA and around heavy equipment.
- Remain upwind of operations and airborne contaminants, if possible.
- Establish a work/rest regimen when ambient temperatures and protective clothing create potential thermal hazards.
- Eating, drinking, applying cosmetics and smoking is prohibited in work areas.
- Refer to the SSHC for specific safety concerns for each individual site task.
- On-site personnel are encouraged to be alert of their own physical condition, as well as their co-workers.
- **All accidents, no matter how minor,** must be immediately reported to the SSHC.

7.2 Site Control

The purpose of site control is to minimize the exposure of site workers to potential contamination, protect the public from the site's hazards, and prevent vandalism. The degree of site control necessary depends on site characteristics and the surrounding community. At this time, access is restricted to the site by fencing. During activities at the site, particular attention will be placed on the condition of the site regarding three (3) main work zone areas:

Activity Zone

This zone applies to the immediate work area and includes all materials, equipment, vehicles and personnel involved in the site activity. Site control measures

will include flagging the perimeter of the activity zone to clearly mark the limits of work and to warn passers-by and visitors of the site activity. In addition, the Site Supervisor will maintain communication with City personnel as the location of this zone (and the type of work being performed) changes throughout the project.

The required level of PPE in the activity zone can vary according to job assignment. This will allow a flexible, effective, and less costly operation, while still maintaining a high degree of safety.

This area will be limited to authorized personnel from B&L, regulatory agencies, and contractors/subcontractors to the City. Personnel entering this area will be required to comply with their own HASP that is at least as stringent as this HASP.

Material and Equipment Storage Zone

This zone exhibits the least amount of activity, and as a result, will require the least security. An appropriate area will be designated on-site for the storage of all equipment and supplies. The area is to be kept clean and orderly at all times and free from loose equipment, tools, materials or supplies which may compromise the safety of site workers, City personnel or the public. Construction materials and equipment will be covered with plastic at the end of each workday. Any spills or breakages occurring in this area will be immediately attended to before the Site work continues.

Decontamination Zone

In order to prevent incidental contact with contaminants on investigation equipment or in the wash water, all activities within the decontamination area will be completed before subsequent site work or any other activity begins. This includes:

- Complete removal of contaminants on all equipment used during the preceding phase of the investigation;
- Placement of the waste wash water and sediment in sealed drums;

- Storage of the drums in a secure and out-of-the-way place for future disposal;
- Proper labeling of drum contents;
- Cleanup (if necessary) of area outside of decontamination area; and
- Storage of all decontamination equipment, site investigation equipment, and materials in the Materials and Equipment Storage Zone.

Support Zone

The support zone is the location of the administrative and other support functions needed to keep the operations in the activity and decontamination zone running smoothly. Any function that need not or cannot be performed in a hazardous atmosphere is performed here. Personnel may wear normal work clothes within this zone. Any potentially contaminated clothing, equipment and samples must remain in the decontamination zone until decontaminated. All emergency telephone numbers, change for the telephone (if necessary), evacuation route maps, and vehicle keys should be kept in the support zone.

The SSHC will establish decontamination system and decontamination procedures appropriate to the site and the work that will prevent potentially hazardous materials from leaving the site. All personnel exiting the activity zone will be decontaminated prior to entering the support zone. The decontamination procedures will be reviewed at each daily safety briefing.

Personal hygiene facilities meeting at least the minimum requirements of 29 CFR Part 1910.120 will be provided nearby.

Upon completion of the day's activities, heavy machinery and equipment will be stored securely within the site, or at a location selected by the SSHC.

7.3 Buddy System

Most activities in a contaminated or otherwise hazardous area should be conducted with a partner who is able to:

- Provide his or her partner with assistance.
- Observe his or her partner for signs of chemical or heat exposure.
- Periodically check the integrity of his or her partner's protective clothing.
- Notify the SSHC if emergency help is needed.

7.4 Engineering Controls

Engineering controls and work practices are primarily for limiting exposure through application of engineered barriers. They will be applied to this project when and where they are practicable. The following engineering controls may be applied on this project: water spray, covering of materials, site preparation to facilitate operations and remove obvious physical hazards, and warning alarms/devices.

8.0 Emergency Response Procedures

8.1 Pre-Emergency Planning

Planning for emergencies is a crucial part of emergency response. The SSHC is responsible for training all employees in potential site hazards and the emergency response procedures.

8.2 Personnel Roles

The SSHC is responsible for responding to, or coordinating the response of, off-site personnel to emergencies. In the event of an emergency, the SSHC will direct all notification, response and follow-up actions. Contacts with outside response personnel (hospital, fire department, etc.) will be done at the direction of the SSHC.

Prior to the start of work on the site, the SSHC will:

1. Notify emergency contacts, and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the activities performed on-site;
2. Confirm that the following safety equipment is available: eyewash and safety shower station, first aid supplies, air horn, and fire extinguishers;
3. Have a working knowledge of the safety equipment available; and
4. Confirm a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

Employees who will respond to emergencies involving hazardous materials will be trained in how to respond to such emergencies.

The SSHC will check daily to see that the following safety equipment is available at the site: eyewash station, first aid supplies, and fire extinguisher.

The SSHC will be responsible for directing notification, response and follow-up actions and for contacting outside response personnel (ambulance, fire department or others) prior to and during an emergency. Upon notification of an exposure incident, the SSHC will call the Hospital and fire and police emergency response personnel for recommended medical diagnosis, treatment, if necessary, and transportation to the hospital.

The SSHC must conduct an investigation of the incident as soon as possible. The SSHC will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring. The resulting report must be accurate, objective, complete and signed and dated.

8.3 Safe Distances and Places of Refuge

In case of an emergency, the parking area will serve as the immediate place of refuge. Personnel in the exclusion zone should evacuate through the decontamination zone to the refuge location, both for their own personal safety and to prevent hampering response/rescue efforts. Following an evacuation, the SSHC will account for on-site personnel. If evacuation from the work site is necessary, the project vehicles will be used to transport on-site personnel to a place of refuge.

8.4 Emergency Communications

There will be a cellular telephone located in the Project Manager's vehicle for emergency use. There will be air horns, walkie-talkies, and/or other audible emergency signals located within the exclusion zone and decontamination area to signal others of an emergency. The SSHC should brief all personnel of audible emergency signals being used during the site activities prior to starting the work. Site personnel to inform others of emergencies will use the following hand signals:

- Hand gripping throat - out of air, cannot breathe.
- Grip partner's wrist or both hands around waist - leave area immediately.

- Hands on top of head - need assistance.
- Thumbs up - everything's OK, or I understand.
- Thumbs down – No.

8.5 Emergency Procedures

The nature of work at a contaminated or potentially contaminated work site makes emergencies a continual possibility. Although emergencies are unlikely and occur infrequently, a contingency plan is required to assure timely and appropriate response actions. The contingency plan is reviewed at tailgate safety meetings.

8.5.1 Incident Procedures

If an emergency incident occurs, the following actions will be taken:

1. Size-up the situation based upon available information.
2. Notify the SSHC.
3. Only respond to an emergency if personnel are sufficiently trained and properly equipped.
4. As appropriate, evacuate site personnel and notify emergency response agencies, e.g., police, fire, etc.
5. As necessary, request assistance from outside sources and/or allocate personnel and equipment resources for the response.
6. Consult the posted emergency telephone list and contact key project personnel.
7. Prepare an incident report.

All site personnel should be aware of the location of fire fighting equipment. Personnel shall only extinguish minor fires. Large fires will require

contacting the local fire department and allowing them to handle the fire. The local fire department will be contacted prior to initiating site activities to inform them of the potential hazardous materials that could be encountered in an emergency.

8.5.2 Medical Emergencies

In the event of an accident or injury, workers will immediately implement emergency decontamination and isolation measures to assist those who have been injured or exposed and to protect others from the hazards. Upon notification of an exposure incident, the SSHC will contact the emergency response personnel who can provide medical diagnosis and treatment. If necessary, immediate medical care will be provided by trained personnel competent in first aid procedures. Trained personnel competent in such matters will only provide other on-site medical and/or first aid response to an injury or illness.

If an individual is transported to a hospital or doctor, a copy of this HASP will accompany the individual.

The SSHC will be notified when an accident or incident occurs and will respond according to the seriousness of the incident. The SSHC will investigate facility/site conditions to determine whether and at what levels exposure actually occurred, the cause of such exposure and the means to be taken to prevent the incident from recurring.

The SSHC and the exposed individual will complete an exposure-incident investigation. The SSHC will prepare a signed and dated report documenting the investigation. The SSHC and the exposed individual will also complete an exposure-incident reporting form. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

Emergency first aid may include taking care of minor scrapes to performing CPR. All site personnel should be familiar with the location of the site first aid kits. The site safety officer should be trained in first aid and CPR. Contacting hospital and/or emergency agencies shall be made on a case by case basis depending on the severity of the injury. If an off-site emergency agency is contacted, all the details relating to the injury should be relayed to that agency. All site injuries should be documented. The following actions should be taken if someone requires first aid:

1. Survey the scene to determine if it is safe to reach the injured person.
2. Ask the injured person what happened. If the person is unconscious, look for signs as to what may have occurred.
3. See if there are others injured.
4. Reassure the victim. Contact others for help; tell them to call the appropriate emergency agency.
5. If it is safe to move the victim, return them back to the field office.

Only trained personnel should perform CPR or rescue breathing on an unconscious victim.

Personnel who experience heat stress or frost bite should be attended to in the following manner:

Heat Stress - Symptoms include cool, pale and moist skin, heavy sweating, headache, and nausea. This person should be removed from the hot environment immediately, and allowed to lie on their back. Apply cold packs or make sure they are in an air-conditioned room. Give them plenty of water and/or electrolyte replacing fluids. Should a victim experience heat stroke (high body temperature, red skin) the body must be cooled down quickly and receive medical attention immediately. Persons experiencing

heat stress or heat stroke should be attended to until the situation has been remedied.

Frostbite - Symptoms include slightly flushed skin that becomes white, pain at extremities in early stages. Get a victim experiencing frostbite to a warm area and put the frostbitten parts in warm (100-105 F) water. Loosely bandage injured parts after soaking. Under conditions of cold temperatures and high winds, there is the potential for workers experiencing hypothermia. Signs of hypothermia include: shivering, dizziness, numbness, confusion, or drowsiness. Warm up this person's body with dry clothes and a blanket, if available. Call the appropriate emergency agency or take this person to the hospital.

8.6 Emergency Routes

Should an emergency signal be sounded, on-site personnel should immediately stop what they are doing, and return to the decontamination area. Personnel in the decontamination area and the support zone should evaluate the emergency and contact the appropriate off site emergency personnel. Once on site personnel return to the decontamination area, there will be someone there to direct them as to what to do. It is imperative that the SSHC or designated alternate account for all site personnel. The SSHC should direct all personnel to the nearest safe refuge.

The hospital route is included as attachment 1.

If the emergency event threatens the surrounding community, it is important that the local police and fire departments be contacted immediately regarding the potential danger.

8.7 Spill Control

A major spill is not anticipated at the site. Should a spill of any type occur, the employee should report it immediately to the SSHC, who will make arrangements for the proper clean-up of the spill. These arrangements will include diking and ditching, as necessary, as well as the use of absorbents such as vermiculite or speedy dry. The emergency response personnel will be contacted immediately by SSHC in the event that on-site materials can not immediately contain the spill.

8.8 Personal Protective and Emergency Equipment

There will be suitable equipment on site for small emergency events such as additional PPE, fire extinguishers, first aid kits, and eye wash stations. In the event of a major emergency event, off site personnel will be contacted immediately.

8.9 Decontamination Procedures

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Minimum decontamination will consist of detergent washing, rinsing, and removal of contaminated outer clothing and equipment. If time does not permit the completion of all of these actions, it is acceptable to remove the contaminated clothing without washing it. If the situation is such that the contaminated clothing cannot be removed, the person should be given required first aid treatment, and then wrapped in plastic or a blanket prior to transport to medical care. If heat stress is a factor in the victim's illness/injury, the outer protective garment will be removed immediately.

8.10 Evacuation Routes

Unless otherwise directed, evacuation will be made through the decon area to the parking area for a head count.

8.11 Response Critique

Should an incident on-site occur, the SSHC will analyze the response efforts in order to continually improve on-site conditions and procedures. The SSHC must complete follow-up activities before on-site work is resumed following an emergency. Used emergency equipment must be recharged, refilled or replaced. Government agencies must be notified as required in their regulations.

Attachment 1

Hospital Route

Attachment 1

Hospital Route

From: Ithaca Falls Overlook ERP, 125 Lake Street, Ithaca, NY

To: Cayuga Medical Center (101 Dates Drive, Ithaca, NY)

1.	Go SOUTHEAST on Lake Street	0.1 Miles
2.	Continue STRAIGHT onto University Avenue	0.1 Miles
3.	Turn RIGHT onto Stewart Avenue	0.7 Miles
4.	Turn RIGHT onto E. Martin Luther King Jr. Street/E. State Street	0.2 Miles
5.	Slight RIGHT onto Seneca Way	1.0 Miles
6.	Slight RIGHT onto W. Martin Luther King Jr. Street/W. State Street	0.1 Miles
7.	Continue onto Hector Street	0.6 Miles
8.	Turn RIGHT onto Vinegar Hill	427 Feet
9.	Turn LEFT onto NY-96N/Cliff Street	1.7 Miles
10.	Turn RIGHT onto Dates Drive	
	Hospital is located at 101 Dates Drive, Ithaca, NY	

(This should be posted in several conspicuous locations at the site.)

EMERGENCY CONTACTS
(To be posted)

Contact	Person or Agency	Phone Number
City Representative	Nels Bohn Ithaca Urban Renewal Agency	(607) 724-6559
NYSDEC Region 7 Project Manager	Gary Priscott	(607) 775-2545
Law Enforcement	(C) Ithaca PD	911 (607) 272-3245 (non-emergency)
Fire Department	(C) Ithaca FD	911 (607) 272-1234 (non-emergency)
Confined Space Rescue (Fire Department)	(C) Ithaca FD	911 (607) 272-1234 (non-emergency)
Ambulance	(C) Ithaca FD	911 (607) 272-1234 (non-emergency)
Hospital - Emergency	Cayuga Medical Center	(607) 274-4680
B&L Project Manager	David R. Hanny	(585) 953-6670
B&L Project Manager/Site Safety Officer	David R. Hanny	(585) 953-6670
B&L Officer-in-Charge	Scott D. Nostrand, P.E.	(315) 457-5200

FIELD SAMPLING PLAN

Appendix not required at this time.
The SMP will be updated if field sampling activities change.

QUALITY ASSURANCE PROJECT PLAN

Appendix not required at this time.
The SMP will be updated if field sampling activities change.