May 23, 2006

Remedial Investigation/ Alternatives Analysis Work Plan Schuyler Heights Fire District 849 First Street

NYSDEC- 1996 Clean Water/Clean Air Bond Act Project

849 First Street
Town of Colonie
Albany County, New York

Prepared for:

SCHUYLER HEIGHTS FIRE DISTRICT
900 First Street
Watervliet, New York 12189

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Project No: 05.5698

NYS ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS WORK PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

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1.0 INTRODUCTION & PURPOSE

1.1 Introduction

The Schuyler Heights Fire District (Fire District) submitted an application to the New York State Department of Environmental Conservation (DEC) for participation in the NYS Environmental Restoration Program (ERP) in relationship to the proposed Schuyler Heights Fire Department Site, located at 849 First Street, owned by the Schuyler Heights Fire District. NYSDEC subsequently notified the Fire District of its eligibility to participate in the ERP.

Prior to preparing this Work Plan, a review of available data and information pertaining to the history and environmental conditions of the subject property was completed by C.T. Male Associates, P.C. (CTM).

The proposed remedial investigation will generally consist of the collection and analysis of surface soil samples, conducting exploratory test pits and test trenches, collection and analysis of subsurface soil samples from the test pits, trenches, test borings, installation of groundwater monitoring wells, collection and analysis of groundwater samples from newly installed monitoring wells, collection and analysis of soil vapor and completion of a Fish and Wildlife Impact Analysis.

This Remedial Investigation/Alternatives Analysis (RI/AA) Work Plan will become an attachment to the ERP Agreement. The work plan is a working document that may be modified by the Fire District and NYSDEC under the terms and conditions of the agreement.

1.2 Purpose

The purpose of the RI/AA Work Plan is to describe the investigations required to define the nature and extent of contamination, if present, within the subject site. From the data developed through the completion of the RI, decisions regarding the need for remedial actions are made and appropriate remedial alternatives are evaluated based in part on the intended future use of the Site (Fire Department). The Work Plan outlines a systematic investigation specific to the Site characteristics considering the Site's history, geology, hydrogeology, known or suspected contaminants and contemplated future

use. The target goals of this investigation will be to identify contaminants of concern, define the extent of such contamination, and to produce data of sufficient quantity and quality to support the development of an Alternatives Analysis Report (AAR).

This work plan generally describes the investigative techniques to be employed during the investigation as well as the type, frequency and number of media samples to be collected for laboratory analyses. The specifics regarding the investigative techniques /methods/procedures to be followed are detailed within the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP). Health and safety issues are presented in the site-specific Health and Safety Plan (HASP). The Citizen Participation Plan (CPP) will serve to disseminate information to the public regarding remedial investigation activities to be performed at the site, the availability of information and applicable reports, and public involvement in the decision making process.

It is our understanding that the contemplated reuse of the site includes the potential for a Fire Department. Based on this potential use, the AAR will focus on achieving acceptable levels for this type of use through remedial actions and appropriate controls.

1.3 Project Objectives and Goals

The overall project objective is to investigate, identify and assess known and suspected sources of contamination. The project goal is to develop appropriate remedial alternatives for the identified contaminants which will ultimately achieve compliance with established regulatory clean up guidance levels and criteria. For this project, achieving the standard and guidance values established in the following NYSDEC documents will be the overall site remediation goal.

Division Technical and Administrative Guidance Memorandum (TAGM)
TAGM HWR-94-4046

Determination of Soil Cleanup Objectives and Cleanup Levels (Revised)
January 24, 1994

NYSDEC Technical Guidance for Screening Contaminated Sediments
January 25, 1999

NYSDEC Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA)
October 1994

NYSDEC, 6 NYCRR Part 703.5
Surface Water and Groundwater Quality Standards
August 1999

1.4 RI/AAR Work Plan Requirements

To meet the overall project objective and goal, a detailed work plan is required to be developed, reviewed and approved. The overall objective of the Remedial Investigation/Alternatives Analysis Report (RI/AAR) Work Plan is to provide a detailed description of the approach for completion of the RI/AAR. The intent of the Work Plan is to present the methods and procedures that will be followed to assess the site from an environmental standpoint, and from which evaluations and decisions regarding site remediation activities can be developed. The goal of the Work Plan is to generate sufficient information to address the following site and contaminant characteristics:

- Identification and characterization of the sources of contamination;
- Determination of the amount, concentration, persistence, mobility, state (solid, liquid) and other significant characteristics of the contamination present, both on-site and off-site;
- Evaluation of the extent to which natural or man made barriers currently contain the contamination;
- Definition of the extent to which the contaminants have migrated or are expected to migrate and whether future migration may pose a threat to human health or the environment;
- Identification of potential routes of exposure;

- Definition of hydrogeological factors (e.g. soil permeability, depth to saturated zone, hydrologic gradients, proximity to a drinking water aquifer, flood plain, or wetland);
- Groundwater characteristics and current and potential groundwater use;
- Qualitatively describe the property's contaminant contribution to air, land, water, biota, or food chain; and
- Determination of the extent to which contamination levels pose an unacceptable risk to public health and/or the environment.

The RI/AAR references a site specific Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP) detailing how the site data will be acquired and determined usable with respect to the QAPP requirements. A site specific Health and Safety Plan (HASP) is also prepared to present procedures and protocols for site worker safety. Lastly, a Citizens Participation Plan (CP) is developed to foster communication and trust between the public and governmental agencies in order to restore and maintain the environment and protect public health. Each of these referenced plans is appended to this Work Plan.

1.5 Project Schedule

A specific project work schedule has been developed and is presented in Appendix A. The schedule presents the major work task items to be completed starting with the submission of the draft work plan, through the NYSDEC Record of Decision. It is expected that field investigations to be completed by C.T. Male will be conducted on or before May 2006. The Draft RI/AAR report will be submitted within 6 weeks following receipt of independent validation of the laboratory data (Data Usability Summary Report (DUSR). It is anticipated that the final aspect of the project, the Record of Decision, would be issued by DEC during the spring of 2007.

2.0 SITE DESCRIPTION & HISTORY

2.1 Site Description

The Site is located in the Town of Colonie, Albany County, New York as depicted in Figure 1, Site Location Map. The Site consists of an irregular-shaped parcel, approximately 7.52 acres in size, and is located along the north side of First Street, west of 8th Avenue. The Site is currently undeveloped vacant land with limited vegetative cover. Land usage surrounding the Site consists of Metro Metal Recycling LLC to the north, vacant land to the west (previously occupied by D & H Railroad), residential properties to the east and to the south lies First Street, Schuyler Heights Fire Department and Strecks Machine Shop.

2.2 Site History

The property formerly was used as a loading/unloading area for the D & H Railroad. Prior to 2001 the site was occupied by Albany Alloy & Steel and was utilized as a scrap metal yard. More recently the property was used as a scrap yard by Metro Metal Recycling LLC. According to the January 2005 Phase I Environmental Site Assessment (ESA) Report prepared for the Site by C.T. Male, Sanborn Fire Insurance Maps were reviewed; however, there is no exposure of the subject site. Aerial Photographs were reviewed as part of the 2005 ESA. Photos reviewed prior to 1968 revealed a wooded and vacant lot. Photographs from 1968 to 1974 depict a building on the southern portion of the property, along with a small building occupying a northern portion of the site with piles of debris visible in the eastern portion of the property. The photographs from 1978 to 1983 show debris to be concentrated to the northern portion of the property, with a row of storage containers in the southern portions of the site. Photographs from 1991 to 2000 show the property having an unimproved road traversing the property north to south. The southern portion of the site appears to be vacant and covered with brush. The western portion of the property has approximately 10 tractor trailers and a dumpster on it.

2.3 Previous Environmental Assessments

A limited Phase I ESA was conducted for a portion (3 acres) of the subject site by Environmental Products and Services (EPS) of Albany, NY prior to potential subdivision of the parcel (10.705 acres). Observations for the limited Phase I ESA dated July 10, 2002 include:

- The storage and use of petroleum products and chemicals on neighboring properties could have resulted in localized soil and groundwater contamination, possibly impacting the site.
- There were two small areas of stained soil adjacent to the storage trailers on site and one container of black sludge was spilled at the top of some fill material.
- Several pieces of machinery exist adjacent to the storage trailers. The condition of the equipment is poor and may have leaked fluid.
- Significant amounts of fill materials have been brought on site based on the irregular topography. Several tires were observed at the base of some of the fill west of the gate.
- The loading and unloading dock was actively used for approximately 30 years. The potential exists that material being loaded or unloaded from the trains may have impacted the property. Wood associated with railroad ties potentially coated with cresol may have impacted the surface soils.
- Aerial photos (1970 and 1983) showed two areas on the property that may have had a liquid of an unknown type stored on it. One area was observed between First Street and the loading dock and the second area was west of the gate along the property line.

Based on the findings of the limited Phase I ESA, EPS performed a limited Phase II (August 2002) investigation. The limited Phase II ESA centered on evaluating prior uses of the property and the neighboring property uses that may have impacted the soil and groundwater at the subject site. The work performed in the limited Phase II ESA included test pit excavations, soil sampling, a monitoring well installation, groundwater sampling, and laboratory analysis.

A total of twelve (12) test pits were completed during the limited Phase II ESA. The test pits ranged in depth from 2 to 5 feet below grade. Soil samples obtained from the test pits were visually classified in the field and placed in a zip lock bags and screened for the presence of volatile organic compounds (VOCs) with a calibrated photo-ionization detector (PID) meter. The screening results did not indicate the presence of any VOCs above background levels.

Three (3) soil samples were collected from the twelve test pits for laboratory analysis. A total of three composite samples were analyzed by Phoenix Environmental Labs. The first soil sample (S1) was analyzed for Cresol using the Toxicity Characteristic Leaching Procedure (TCLP). The second soil sample (S2) was analyzed for the 8 RCRA metals utilizing the TCLP procedure. The third soil sample (S3) was analyzed for STARS Memo No. 1 volatile organic compounds by EPA Method 8021 and semi-volatile organic compounds by EPA Method 8270.

One temporary monitoring well (GW-1) was installed with the use of a hand auger. The monitoring well was located between the entrance gate and First Street. The monitoring well location was selected to see if the former railroad loading terminal had impacted groundwater quality. The monitoring well was set to a depth of 6 feet below grade. A groundwater sample was collected and submitted to Phoenix Environmental Labs for analysis. The groundwater sample was analyzed for volatile organic compounds by EPA Method 502.2 with MTBE.

Soil sample S1 results indicated that cresol was not detected above the laboratory detection limits. Soil sample S2 had two metals detected; barium was detected at 1.69 mg/l and lead was detected at 0.043 mg/l. Soil sample S3 had no volatile organic compounds detected. A total of nine semi-volatile organic compounds were detected in sample S3. Three of the nine compounds, benzo(b)fluoranthene at 1,200 ug/kg, benzo(k)fluoranthene at 1,700 ug/kg and chrysene at 1,800 ug/kg exceeded TAGM 4046 regulatory values. Groundwater sample GW1 did not contain any compounds detected above the laboratory detection limits.

The text portion of the limited Phase I ESA and the Limited Subsurface Investigation Report were provided within the ERP Application for the project site.

A Phase I ESA was conducted for the subject site (7.52 acres) by C.T. Male Associates after the subdivision of the 10.705 acre parcel of land and the purchase of the property by the Fire District in September 2003. Findings of the Phase I ESA dated January 26, 2005 include:

- The subject site is currently vacant land. The site was historically used as a loading/unloading area for the D & H Railroad. Prior to 2001 the site was occupied by Albany Alloy & Steel and was utilized as a scrap metal yard. More recently the site was used as a scrap metal yard by the CF Van Hall Scrap Yard.

- The site was identified on reviewed environmental databases and lists. The environmental database also indicated that the site was subject to two spills. Spill No. 0405121, associated with Niagara Mohawk transformer that released five (5) gallons of transformer oil to the ground and spill No. 9200893, associated with the Albany Alloy & Steel Scrap Metal Yard that spilled 35 gallons of non-pcb oil to the soil. Both spills have been closed.

- Several facilities were identified on the reviewed environmental databases and lists within the specified search radii. Based on the number of facilities there is potential for degradation of soils or groundwater in the vicinity of the site.

- The properties surface area appeared to be disturbed on the northern portion of the site located in the areas of the debris piles.

- The assessment was conducted at a time snow covered the ground surface.

- The full ESA was provided to NYSDEC with the ERP Application.

3.0 SITE INVESTIGATIONS

3.1 Investigative Approach

The project site will be investigated through the completion of specific tasks as outlined in the following sections. As this plan is a working document, certain aspects of the proposed investigative tasks may be modified as a function of its review by the NYSDEC and other involved agencies.

3.2 Contaminants of Concern

The existence of former railroad and scrap metal operations on the Site suggests the potential presence of petroleum-related products, transformer oils and metals such that volatile organic compounds, semi-volatile organic compounds, PCBs and metals are potential contaminants of concern, further supported by the previous discovery of semi-volatile compounds during EPS limited Phase II Environmental Site Assessment in August 2002.

In summary, the following chemical groups include the potential contaminants of concern within surficial soils, subsurface soils and groundwater will be evaluated for during this remedial investigation.

- Target Compound List Volatile Organic Compounds
- Target Compound List Semi-Volatile Organic Compounds
- Target Compound List Pesticides
- Target Compound List Polychlorinated Biphenyls (PCBs)
- Target Analyte List Metals

3.2.1 Surface Soil Sampling

As a normal requirement of the ERP, a soil sampling grid will be established over the site from which surface soil sample locations will be selected. Surface soil samples will be collected at the selected locations and analyzed for the Target Compound List (TCL)

volatile and semi-volatile organic compounds, PCBs, pesticides and Target Analyte List (TAL) metals. A 150 by 150 foot grid will be established over the site. 20 surface soil samples are anticipated to be collected for analysis from the approximate locations depicted in Figure 2.

The surface soil samples will be collected at grade if the sampling point does not lie within a vegetated location (i.e. grass/weeds). At sampling locations where vegetative cover exists, it will be removed to a point below the root zone. Samples will then be collected to a depth of two inches below the root zone. At sampling locations where leaf litter is present, the litter will be removed prior to collecting the sample down to a depth of two inches. Quality Assurance/Quality Control samples (duplicate samples, equipment blanks, MS/MSDs and trip blanks) will be collected for analysis as described in the QAPP.

3.2.2 Test Pits and Test Trenching

Exploratory test pits and trenches will be completed within the subject site utilizing a track mounted excavator. Test pits will be advanced through the existing elevated piles of debris identified on the site allowing for assessment of the material. Test trenches will be completed across the site to define the vertical extent of buried debris and its potential impact to native material. The trenches will be advanced through the fill material to the fill/native interface or groundwater, whichever is encountered first.

The test pits and trenches will be observed and directed by a geologist or environmental scientist. Excavated material (fill, soil, etc.) will be visually classified and logged vertically and horizontally on a full time basis. Representative samples of the excavated material will be screened for volatile organic vapors with a Photo Ionization Detector (PID). Select samples will be collected from the pits and trenches for laboratory analysis. The samples will be analyzed for TCL volatile and semi-volatile organic compounds, pesticides, PCBs and TAL metals. The need for additional waste characterization sampling (Full TCLP and RCRA characterization) will be evaluated after review of the test pit sampling results. The soil/fill material field logging, screening and sampling protocols and techniques are detailed within the Field Sampling Plan (Appendix B).

One media sample will be collected from each test pit location (6 test pits). The samples are anticipated to be fill material. Two samples will be collected from each of the test trenches (8 trenches) located on the property. The soil samples will be collected from beneath the contact of buried fill and soil above the water table. The selection of the samples from each depth interval will be made on the basis of organoleptic perception (appearance and odor) of potential contaminants and PID VOC field screening results. The samples will be collected to provide representative coverage of each test pit and test trench.

3.2.3 Test Borings/Monitoring Well Installations

Exploratory test borings will be completed on the Site at the approximate locations identified on Figure 2. The actual locations of each boring will be determined based on the findings of the trench/test pit excavation work which may require the locations depicted on Figure 2 to be adjusted. The test borings will be advanced using Geoprobe (direct-push) methods to a depth of approximately 20 feet below existing grade. The actual termination depth of each boring will be no less than five feet below the water table, unless bedrock or other impediments prohibit the advancement of the geoprobe to the targeted depths. Subsurface soil samples will be collected continuously at 4-foot intervals using a Macro-Core sampler. All recovered soil samples will be screened for the presence of volatile organic compounds with a photoionization detector (PID). The soil boring techniques, screening methods and sampling methods are presented in the Field Sampling Plan (Appendix B).

One soil sample from above the water table from each new Geoprobe boring location will be selected for laboratory analysis on the basis of subjective evidence of contamination (elevated PID readings and organoleptic perception). If no evidence of subsurface soil contamination is noted above the water table, a sample of native soil directly below the interface of fill material and native soil will be secured for analysis, if the interface exists above the water table. If no evidence of contamination is noted in the soils/fill above the water table or a fill/native soil interface above the water table is absent, a sample of the first six inch interval below ground surface will be collected for laboratory analysis. The surficial soil sample results will assist in further defining the nature of the surface materials and determining if contact with the surficial soils is a

route of exposure to site contamination. Soil samples will be analyzed for TCL volatile and semi volatile organic compounds, pesticides, PCBs and TAL metals.

Each test boring will be converted to a permanent monitoring well. Monitoring wells installed will be constructed of flush threaded sections of 1-inch diameter PVC well screen (.010" slot) and solid riser pipe. The wells will be installed such that the screened interval intersects the water table.

The screened portion of each well will be filter packed with sand, above which a minimum 1-foot bentonite seal will be installed. The remainder of the borehole will be grouted with a cement/bentonite grout mix. Each well will be protected with metal guard pipes with locking hasps set in concrete. Monitoring well construction details are outlined in the FSP. A total of six 1-inch diameter wells are anticipated to be installed on the Site, as shown on Figure 2. These locations maybe adjusted dependant upon the findings of the test pitting/trenching, with prior approval from the DEC Project Manager.

In the event that contamination is confirmed on the Site, it may be necessary to conduct off-site Geoprobe test borings/monitoring wells in upgradient locations. Permits for access to off-site properties will need to be obtained and approved prior to conducting off-site work.

3.2.4 Groundwater Sampling

Prior to the collection of groundwater samples from the newly installed monitoring wells, each well will be developed utilizing a combination of manual surging/bailing and pumping using a peristaltic pump to restore the hydraulic connection between the wells and the surrounding aquifer.

Approximately one week following well development activities, the monitoring wells will be purged and sampled, and all samples will be analyzed for TCL volatiles and semi-volatile organic compounds, PCBs, Pesticides and TAL metals on a totals (unfiltered) basis.

Well development, purging and sampling methods/protocols/requirements are presented in the FSP. Quality control requirements are set forth in the QAPP.

3.2.5 Soil Gas Survey

Soil vapor is considered an environmental medium, like soil or groundwater, which must be characterized during the investigation of a site. A targeted soil gas investigation will be initiated on the portion of the Site where the proposed Fire Department building will be located, based on the results of the surface soil, subsurface soil and groundwater sampling performed during the RI. C.T. Male will submit proposed sampling locations with justification to the Department for review and approval prior to performing the soil gas investigation. Soil gas sampling activities will be conducted in accordance with the New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance document.

The soil gas survey will consist of obtaining soil gas samples from below grade locations using temporary soil gas sampling points and 6-Liter vacuum Summa canisters. Each temporary sampling point will be constructed of an aluminum expendable shield point attached to polypropylene tubing, both of which are inserted into a round steel tube and driven to the desired depth of ±5 feet below grade. When the round tube is retracted, the slotted portion of the expendable point is exposed and the 6-Liter vacuum Summa canister is connected to the tubing for VOC readings. The sub-surface vapor samples will be shipped to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory, and analyzed for volatile organic compounds by EPA Method TO-15 (full scan).

3.2.6 Fish and Wildlife Impact Analysis

An Ecological Risk Assessment (ERA) will be completed for this project. The level at which the ERA is completed will be based on the October 1994 NYSDEC Fish and Wildlife Impact Analysis (FWIA) for Inactive Hazardous Waste Sites and its Decision Chart in Appendix C. The FWIA Decision Chart is written in steps such that decision points are established for determining when the process is complete and further assessment is unnecessary.

At a minimum, a preliminary evaluation of the site will be prepared to determine if fish and wildlife resources are present at the subject site. If fish and wildlife resources are present that may be affected by site-related contaminants, a complete site description as outlined in Step I of the FWIA will be completed. If no resources are associated within

the site or if there is no potential for contaminant migration to the resources, then only the necessary information to support that conclusion will be provided. If there is potential for migration to resources identified, further evaluation pursuant to the FWIA will be performed.

3.2.7 Data Usability Summary Report

A DEC Data Usability Summary Report (DUSR) for 100% of the analytical data developed during this investigation will be completed to confirm the data is of adequate quality for subsequent decision making purposes. The DUSR will be completed by a qualified data validator.

3.2.8 Site Survey

The selected borings and surface soil sampling locations will be marked on the Site by a Licensed Land Surveyor (LLS) prior to initiating the field work. If a sampling location is moved from the marked location due to access constraints or for other reason or need, the modified location will be surveyed following the completion of the field work. Ground surface elevations will be determined at all test locations relative to mean sea level, and the top of PVC well casings (monitoring wells) will also be surveyed subsequent to their completion.

4.0 DRAFT REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT

Upon completion of the investigations presented herein, and following receipt of preliminary analytical results for these tasks, summary tables of the unvalidated raw data will be prepared. The tables will compare the results to applicable Standards, Criteria and Guidance (SCG) values. The tables, along with a discussion of the necessity for additional site investigation and a list of possible remedial alternatives for the site, will be submitted to NYSDEC for review and comment. At least one alternative must be developed which attempts to restore the site to pre-disposal conditions. This alternative may or may not be selected. A "no action" or "no further action" alternative will also be evaluated within a total of three to five remedies. If the investigation of the property and/or treatment data is insufficient to adequately evaluate alternatives, further investigation may be required and recommended at this point.

The analysis of alternatives will be developed considering the following criteria:

- Overall Protection of Public Health and the Environment
- Compliance with SCGs
- Long Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility or Volume with Treatment
- Short Term Effectiveness
- Implementability
- Cost
- Community Acceptance (Evaluated by NYSDEC)

The alternatives will be analyzed against the first six criteria and then compared against one another to determine the most cost-effective protective remedy. Within 45 days of the completion of the field activities and receipt of the validated analytical laboratory data, a draft RI/AAR will be prepared. The draft report will be prepared in accordance with Sections 5.2.1, 5.3, 5.4 and Appendix 1 of the Municipal Assistance Environmental Restoration Projects Procedures Handbook (Municipal Procedures Handbook). Attachment 3 of the Municipal Procedures Handbook will be used as a starting point for the report contents. Individual sections may be added or omitted as dictated by the

site conditions. The final RI/AA Report will serve as the basis for the DEC to prepare a Proposed Remedial Action Plan (PRAP) and Record of Decision (ROD), if necessary.

5.0 QUALITY ASSURANCE PROJECT PLAN

The Quality Assurance Project Plan (QAPP) is presented in Appendix C of this work plan. The plan describes the quality assurance and quality control procedures to be followed at the time media samples are collected in the field, to the time they are analyzed by the environmental analytical laboratory and evaluated by the data validator according to the NYSDEC DUSR guidelines.

The QAPP will be utilized and followed by field personnel during the site investigation activities and media sampling events. It will also be used by the project management team to assure the data collected and generated is representative and accurate. The laboratory results will be reported with NYSDEC ASP Category B deliverables.

6.0 FIELD SAMPLING PLAN

A site specific Field Sampling Plan (FSP) has been developed (Appendix B) for the project which conforms closely to the QAPP. The sampling describes in detail the various methods and techniques to be followed during the completion of the investigation.

7.0 SITE SPECIFIC HEALTH AND SAFETY PLAN

A site specific Health and Safety Plan (HASP) (Appendix D) has been prepared for this project and is appended. The HASP addresses site worker health and safety issues. Although the plan addresses all of the site activities to be performed, the subcontractors to be utilized will be required to develop their own HASP relative to work they will be performing.

8.0 CITIZEN PARTICIPATION PLAN

A project specific Citizen Participation Plan (CP Plan) has been developed for this project (Appendix E) in general accordance with the Environmental Restoration Project, Clean Water/Clean Air Bond Act of 1996, Brownfields Procedures Handbook. The objective of the plan is to disseminate information to the public regarding the RI/AAR and to involve the public in the decision making process. This is accomplished by keeping the public informed of the investigation through direct mailing, periodic community meetings, public notice in local newspapers and other publications, and by having project documents available for review at public accessible repository locations. The CP Plan should be considered an integral part of the Work Plan.

9.0 SUBMITTALS

Written communications required by this agreement will be transmitted by United States Postal Service, private courier, or hand delivered to the following individuals. Final documents, as they become available, will also be distributed to the following individuals in both paper format and in a Department-approved electronic format:

- Ian Beilby, P.E. (three copies, one unbound)
  New York State Department of Environmental Conservation
  Division of Environmental Remediation
  625 Broadway, 12th Floor
  Albany, New York 12233-7013

- Bruce Donavan
  New York State Department of Health
  Environmental Health Program
  Capital District Regional Office
  Frear Building, One Fulton Street
  Troy, New York 12180

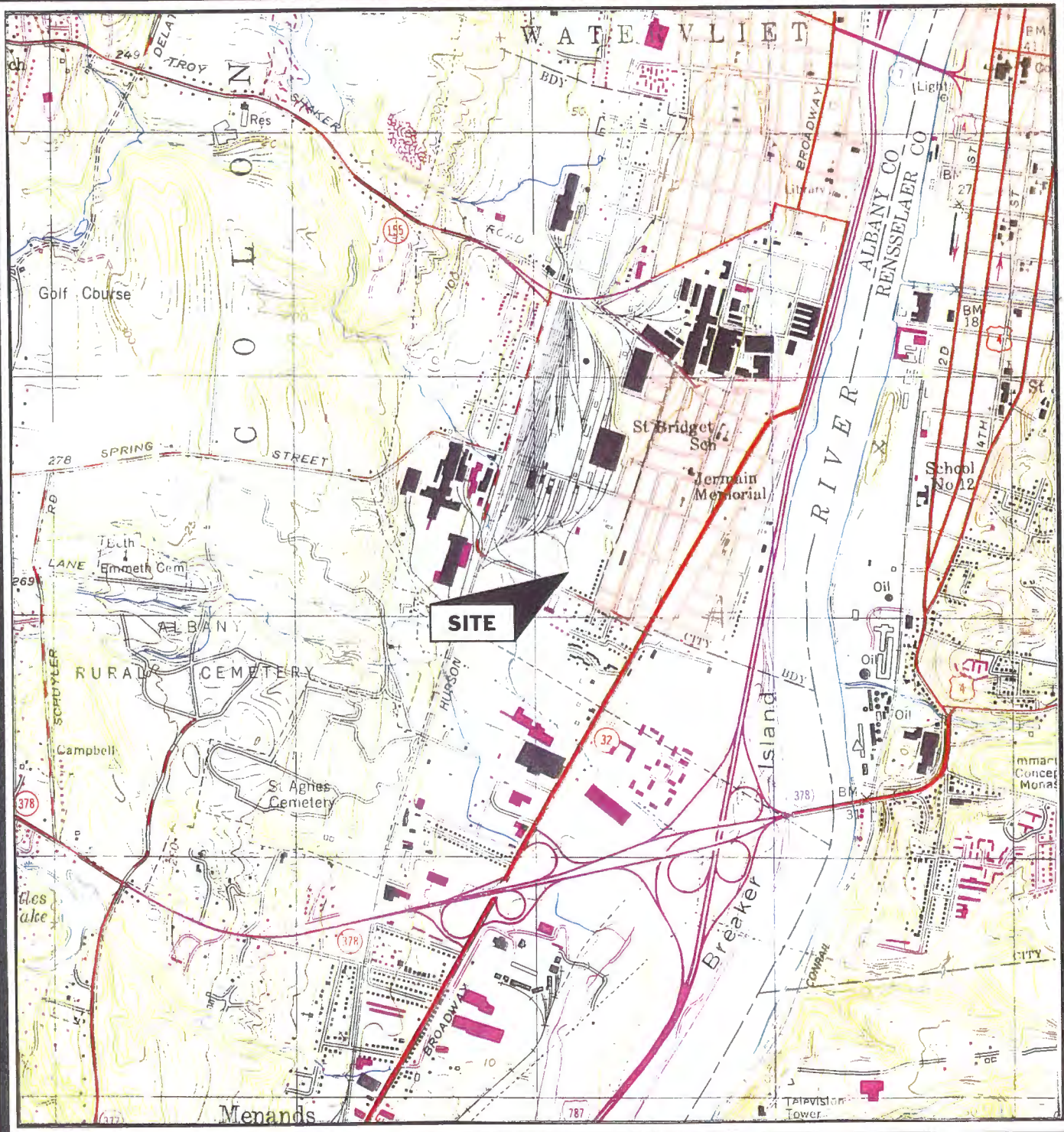
- Mary Von Wergers, Esq. (one copy, correspondence only)
  Division of Environmental Enforcement
  New York State Department of Environmental Conservation
  625 Broadway
  Albany, New York 12233-5500

- Mark DePasquale
  Schuyler Heights Fire District
  900 First Street
  Watervliet, NY 12189

FIGURES

FIGURE 1

SITE LOCATION MAP



MAP REFERENCE
United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangle: Troy South, NY
Date: 1980

ENGINEERING
ENVIRONMENTAL SERVICES
SURVEYING
PHONE (518)786-7400
FAX (518) 786-7299

C.T.MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110

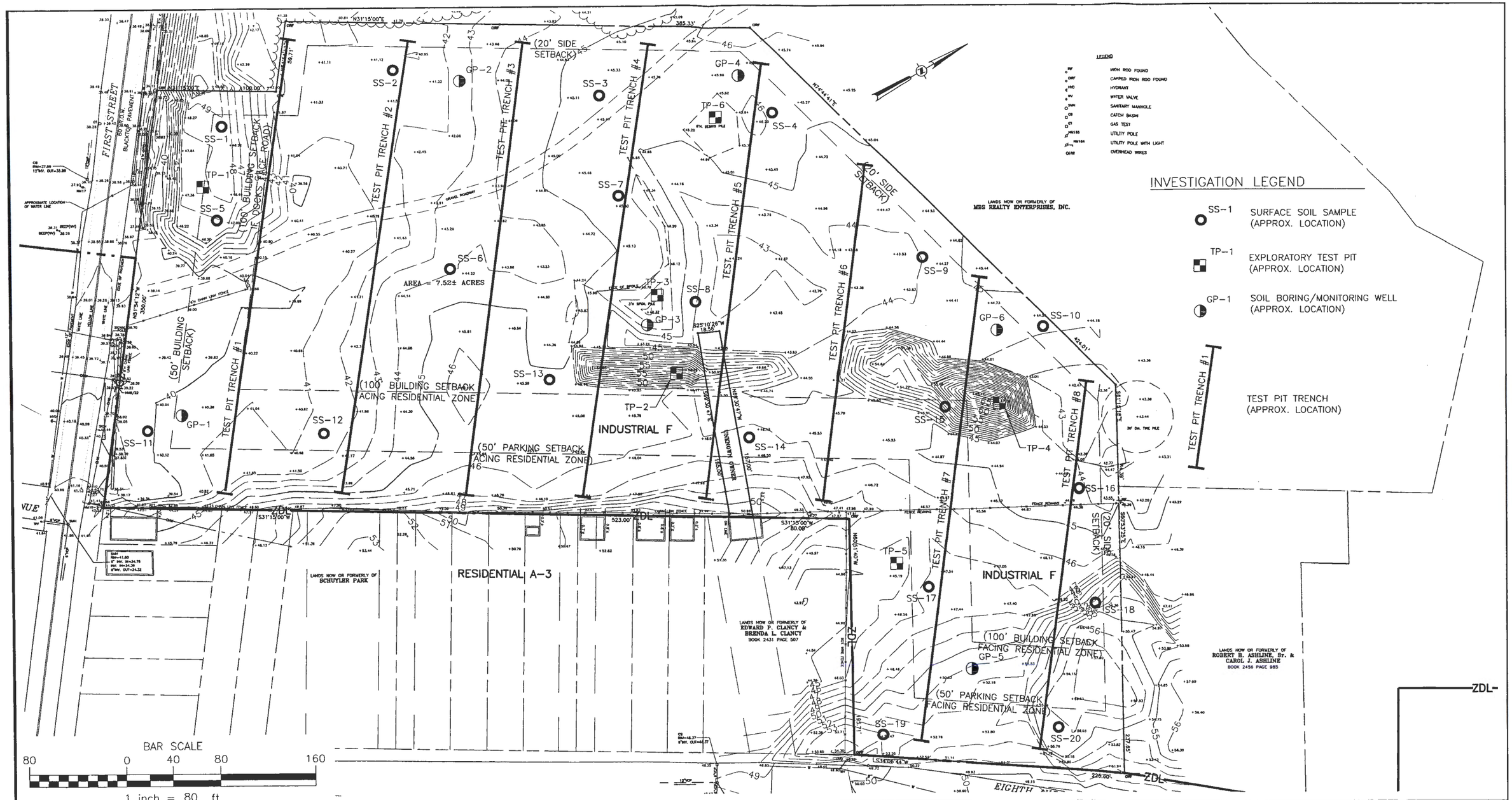
FIGURE 1 - SITE LOCATION MAP

849 FIRST STREET

TOWN OF COLONIE	ALBANY COUNTY, NY
SCALE: 1"=2,000'	
DRAFTER: ASG	
PROJECT No. 04.9808	

FIGURE 2

PROPOSED BORING/SAMPLING LOCATIONS



LEGEND

- IRF — IRON ROD FOUND
- CIRF — CAPPED IRON ROD FOUND
- HYD — HYDRANT
- WV — WATER VALVE
- SMH — SANITARY MANHOLE
- CB — CATCH BASIN
- GT — GAS TEST
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- OHW — OVERHEAD WIRES

INVESTIGATION LEGEND

- SS-1 — SURFACE SOIL SAMPLE (APPROX. LOCATION)
- TP-1 — EXPLORATORY TEST PIT (APPROX. LOCATION)
- GP-1 — SOIL BORING/MONITORING WELL (APPROX. LOCATION)
- TEST PIT TRENCH (APPROX. LOCATION)

NOTE:
1. THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1. TOPOGRAPHIC SURVEY, SCHUYLER HEIGHTS FIRE DISTRICT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO. 05-131, DATED JANUARY 6, 2005.

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

DESIGNED :
DRAFTED : J. MARX
CHECKED : N.FREEMAN
PROJ. NO: 05.5698
SCALE : ±1"=80'
DATE : MAY 2006

FIGURE 2
PROPOSED SAMPLING LOCATIONS

SCHUYLER HEIGHTS FIRE DISTRICT
NYS BROWNFIELDS INVESTIGATION

TOWN OF COLONIE — ALBANY COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
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APPENDIX A

PROJECT SCHEDULE

Proposed Schedule *(Rev. May 18, 2006)*

Remedial Investigation

Proposed Schuyler Heights Fire Dept.

849 First Street Watervliet, New York

TASK	FEBRUARY 2006				MARCH 2006				APRIL 2006				MAY 2006					JUNE 2006				JULY 2006				AUGUST 2006				SEPTEMBER 2006				OCTOBER 2006				NOVEMBER 2006				DECEMBER 2006				JANUARY 2007				FEBRUARY 2007				MARCH 2007				APRIL 2007			
	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23
WORK PLAN																																																												
Project Meeting with Fire District / NYSDEC (Jan. 2006)																																																											
Develop Work Plan & Submit for Approval																																																											
Work Plan Approval / Modification, if necessary																																																											
Public Release - Fact Sheet																																																											
SITE INVESTIGATION																																																											
Fish & Wildlife Impact Analysis																																																											
Surface Soil Sampling																																																											
Test Pitting/Trenching																																																											
Test Boring/ Monitoring Well Installation																																																											
Well Development & Sampling																																																												
Survey																																																												
Completion of Field Work																																																											
Receipt of Laboratory Data																																																											
Data Validation																																																											
Review of Preliminary Data																																																											
Meeting with Fire District/ NYSDEC to Discuss Findings																																																											
Supplemental Investigations (To Be Determined)																																																											
Development of SCGs																																																											
PREPARATION OF DRAFT REMEDIAL INVESTIGATION (RI) REPORT																																																											
Meeting with Fire District/ NYSDEC to discuss AAR																																																											
PREPARATION OF DRAFT ALTERNATIVES ANALYSIS REPORT (AAR)																																																											
Meeting with District / NYSDEC to discuss Preferred Alternative																																																											
Submission of Draft RI/AAR																																																											
NYSDEC Review of Draft RI/AAR / Comments																																																											
Revise and Submit Final RI/AAR																																																											
Public Release - Fact Sheet																																																											
Development of PRAP and Public Notice																																																											
Public Meeting & Comment Period																																																											
Responsiveness Summary																																																											
Record of Decision (TBA)																																																											

Notes: ▼ = Milestone

APPENDIX B

FIELD SAMPLING PLAN

SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

FIELD SAMPLING PLAN
SCHUYLER HEIGHT FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

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1.0 INTRODUCTION

This document is the Field Sampling Plan (FSP) for the remedial investigation to be conducted on the proposed Schuyler Heights Fire Department, 849 First Street ("the site") located in the Town of Colonie, Albany County, New York. It has been developed in accordance with the Remedial Investigation (RI) Work Plan dated February 16, 2006, as prepared by C.T. Male Associates, P.C. (C.T. Male). A description of the property, available background information, objectives, and the proposed scope of work, are presented in the referenced RI Work Plan.

This FSP is a supplement to the RI Work Plan in that it presents the standard field sampling and data gathering procedures to be followed during implementation of the field activity portion of the scope of work. This plan addresses sampling locations and frequencies, drilling and installation of monitoring wells, test borings, exploratory test pits and trenches, decontamination procedures, sampling procedures, field screening and testing procedures, field instrumentation operating procedures, field measurements, sample handling and chain of custody procedures, and water level measurement procedures. The applicable portions of the RI Work Plan that coincide with the FSP will be provided to, and followed by, the field team. This FSP is intended to be applicable to field sampling activities conducted by C.T. Male and its subcontractors.

The FSP forms an integral part of the Quality Assurance Project Plan (QAPP). The field sampling and data gathering procedures presented in the FSP are incorporated into the QAPP by reference. The FSP and the QAPP document the laboratory quality assurance/quality control procedures to be followed during analysis of samples collected in the field so that valid data of a known quality is generated.

The FSP has been prepared, in part, in general accordance with the following USEPA and NYSDEC guidance documents:

- Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, USEPA, October 1988.
- A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001, USEPA, December 1987.

- Draft DER-10, Technical Guidance for Site Investigation and Remediation, NYSDEC, December 2002.

2.0 SAMPLING LOCATIONS AND FREQUENCY

Sampling will be performed for volatile organic vapor screening, subjective media assessment, laboratory analyses, geologic characterization of the project site and for soil gas vapor intrusion evaluation. The environmental media and building materials to be sampled include:

- Surface Soil;
- Subsurface Soil;
- Groundwater; and
- Interstitial Soil Matrix Vapors (soil gas)

Soil and groundwater sampling will be performed as part of the test boring subsurface investigation, monitoring well sampling, exploratory test pits and trenches and surface soil sampling. Interstitial soil matrix vapor sampling will be conducted in areas of proposed building construction employing subsurface vapor collection probes and canisters. The sampling locations and proposed frequencies are discussed in the appropriate work task section of the RI Work Plan. However, a summary of the sample media to be collected and the corresponding laboratory analyses and analytical methods is presented below in Table 1.

TABLE 1
Summary of Sampling Media & Laboratory Analyses

Sample Type	TCL Volatiles (EPA 8260)	TCL Semivolatiles (EPA 8270)	TCL Pesticides/PCBs (EPA 8081/8082)	TAL Metals (EPA 6010) (EPA 7471)	Volatile Organic Compounds (EPA TO-15)
Surface Soil	X	X	X	X	
Subsurface Soil	X	X	X	X	
Groundwater	X	X	X	X	
Soil Gas					X

TCL – Target Compound List
PCBs – Polychlorinated Biphenyls

3.0 SURFACE SOIL SAMPLING, TEST PIT AND TRENCHES, BORING AND MONITORING WELL INSTALLATIONS

3.1 Surface Soil Sampling

Surface soil samples will be collected from within each cell of a 150 foot by 150 foot grid pattern over the Site. The samples will be collected at grade if the sampling point does not lie within an area overlain with concrete, asphalt or stone (i.e. roadway) or within a vegetated location (i.e. grass). At those locations where the ground is covered by an impermeable barrier, samples will be collected at a depth of two (2) inches beneath the concrete, asphalt or sub-base material, and will be designated as "near surface soil samples". At locations where grass or vegetation is present, the material will be removed to a depth below the root zone and the surficial soil sample will be collected to a depth of two (2) inches below the root zone. Attempts will be made to collect all samples away from operating or idling equipment and vehicles.

3.2 Test Pits and Trenches

Test pit and trenches will be completed to evaluate subsurface fill material and natural soil. Six test pits and eight trenches are proposed to be completed on the site.

The site is believed to be overlain with fill material ranging in thickness from approximately two feet to six feet. Soils underlying the fill will be examined to determine potential impacts from overlying fill material and for the potential existence of petroleum products.

3.3 Test Borings and Monitoring Well Installations

Exploratory test borings/monitoring wells will be advanced/installed throughout the Site to determine the quality of underlying fill material, soils and groundwater. A total of six borings are anticipated for the investigation. The locations of the borings/monitoring wells will be selected to provide thorough coverage of the Site and to assist in determining the direction of groundwater flow within the Site.

Preliminary proposed boring/monitoring well locations, based on existing site data, are indicated on Figure 2 - Proposed Sampling Locations. Please note that these locations may be altered, based on the findings and observations of the test pit and trenching

work, specifically field PID screening and organoleptic perception of soil samples collected from the test pits and trenches.

3.4 Observation of Test Pit and Trenches, Drilling Operations, Monitoring Well Installations and Site Wide Surface Soil Sampling Locations

All drilling and other associated field work involved in the site investigation to be performed by C.T. Male and/or its subcontractors will be observed by a full-time, on-site, C.T. Male Associates, P.C. representative. This representative will be responsible for the collection of soil samples, field screening of soil samples, recording of drilling and sampling data, recording of groundwater data, determination of the final drilling depths and screened intervals (with input from the project manager, hydrogeologist or engineer), recording the monitoring well installation procedures and construction details, and monitoring the decontamination procedures.

Field system audits will be conducted and field reports will be prepared that document the daily activities and their conformance to the work plan (described further in Sections 10.1 and 13.0 of the QAPP). A copy of the forms to be utilized by the applicable field team personnel as part of the field quality assurance/quality control (QA/QC) procedures are enclosed in Appendix A of this FSP.

The project manager will be kept informed of the progress of work and any problems encountered during the field investigations so that the appropriate corrective action can be implemented and the Schuyler Heights Fire District and NYSDEC can be notified.

3.5 Sampling of Test Pits and Trenches

A track-mounted excavator will be utilized to complete the exploratory test pits and trenches. Excavated soils will be visually classified and screened via organoleptic perception (sight and smell), and with a photo ionization detector (PID).
The soils will be classified in the field using the Unified Soil Classification System in general accordance with ASTM D 2488, Standard Practice for Description and Identification of Soils. The soil descriptions may include matrix and clast descriptions, mineralogy, moisture content, color, appearance, odor, behavior of the material and other pertinent observations. This information will be recorded on a test pit log form along with the test pit identification and elevation, date started and completed,

sampling intervals, and depth of first groundwater encountered, if present. A blank copy of a Test Pit Log Form is enclosed in Appendix A.

3.6 Drilling and Sampling of Overburden Soils

The proposed soil borings will be advanced through the overburden using Geoprobe (direct-push) methods. Soil samples will be collected continuously at 4-foot intervals using a 2-inch diameter Macro Core sampler fitted with disposable acetate liners. Soil borings will be advanced to a depth of approximately 20 feet below existing grade, or a minimum of 5 feet below the water table surface. In the event the geoprobe encounters refusal due to unforeseen conditions or bedrock the current depth of the boring will be evaluated (presence of groundwater) and determined if the installation of a monitoring well is warranted. If the geoprobe is not able to obtain depths producing saturated conditions the need for a conventional hollow stem auger drill rig may be necessary.

All soils will be visually classified in the field using the Unified Soil Classification System in general accordance with ASTM D-2488, Standard Practice for Description and Identification of Soils. The soil description may include matrix and clast descriptions, mineralogy, moisture content, color, appearance, odor, behavior of the material and other pertinent observations. This information will be recorded on a Subsurface Exploration Log along with the boring identification and elevation, date started and completed, sampling intervals, length of recovered sample and depth of first groundwater encountered. During the drilling a photoionization detector (PID) meter will be used to monitor the volatile organic vapors exiting the borehole and soil cuttings, and of all recovered subsurface samples. All of these visual observations and field measurements will be recorded on the Subsurface Exploration, a blank copy of which is enclosed in Appendix A. Attempts will be made to collect all samples away from operating or idling equipment and vehicles.

All of the Macro Core soil samples, where sufficient sample is recovered to generate a headspace sample, will be screened in the field with a PID meter on a daily basis. The sample will be allowed to equilibrate to ambient temperature; the plastic bag will be shaken for 30 seconds and allowed to equilibrate for 1 minute; the bag will be pierced with the tip of the PID meter; and the reading taken. The readings will be recorded on a C.T. Male Organic Vapor Headspace Analysis Log form. A blank copy is enclosed in Appendix A. The PID meter calibration procedures are discussed in Section 8.2. At

completion of the field screening of soil samples and soil classification, the recovered soil samples will be retained for no more than 90 days.

In the event a borehole is not converted into a monitoring well, it will be abandoned by filling it with the cuttings from that borehole and then filling the remaining space with a cement/bentonite grout mixture (approximately 20 to 1 ratio). Additional soil cuttings from borings converted to monitoring wells will be containerized, sampled for waste characterization, stored on site, and ultimately disposed of as discussed in Section 11.

3.7 Soil Sampling and Soil Field Screening Procedures

The specific sampling procedures that will be followed for test pits and trenches and site wide surface soil samples include the following:

1. A field-cleaned (per Section 3.10) stainless steel trowel will be used by the on-site sampling personnel. Clean disposable gloves will be worn when handling the trowel.

2. A soil sample will be collected by advancing the bucket of the excavator or hand trowel to a pre-determined depth, based on conditions found at each location. The onsite sampling personnel will collect the test pit/trench sample from the bucket or the surface soil sample with the cleaned stainless steel hand trowel or a new pair of disposable gloves.

3. For samples to be collected for laboratory analysis, the sample container label will be completed with the sample location, sample interval, sampler's initials, date, and time. The client, project name, site location, matrix, sample type (grab/composite) and laboratory analyses to be performed will also be recorded on the sample label.

4. Immediately upon collecting the soil sample, the sample will be put directly into pre-cleaned glass jars using a clean (per Section 3.10) stainless steel trowel or gloved hands, and the jars will be sealed. The soil sample should not include gravel or other large materials. Sampling personnel will wear a new pair of disposable gloves for each sample interval retrieved. A portion of the remaining soil will be placed in a new plastic zip lock bag, not more than half-full, and sealed. This bag sample will be for head space screening in the field for volatile organic compounds (VOCs)

using a PID meter. At completion of the field screening of soil samples and soil classification, the recovered soil samples will be retained for no more than 90 days.

5. The soil sample will be classified and the Subsurface Exploration Log completed as described in Section 3.4.

6. The sampling equipment will be decontaminated per Section 3.10.

The specific sampling procedures that will be followed during direct-push soil sampling include the following:

1. A field-cleaned (per Section 3.10) Macro Core sampler equipped with a new disposable acetate liner will be given to the driller who will attach it to the sampling rod. Clean disposable gloves will be worn when handling the Macro Core sampler.

2. A soil sample will be collected by pushing the Macro Core sampler the desired 4 -foot sampling interval.

3. For samples to be collected for laboratory analysis, the sample container label will be completed with the sample location (boring nomenclature), sample interval, sampler's initials, date and time. The client, project name, site location, matrix, sample type (grab/composite) and laboratory analyses to be performed will also be recorded on the sample label.

4. The recovered Macro Core sampler will be placed on clean polyethylene sheeting. The end cap will be unscrewed and the acetate liner containing the soil sample will be removed from the Macro Core sampler. The acetate liner will then be cut open employing a cleaned cutting device.

5. Immediately upon opening the acetate liner, a portion of each 2-foot interval of the soil sample will be retrieved and put directly into laboratory-supplied, 4-ounce glass jar using a field-cleaned stainless steel trowel or a new pair of disposable gloves. The soil sample should not include gravel or other large materials. The jar will be sealed, labeled and placed in a cooler with bagged ice for potential submittal to the laboratory for VOCs analysis. Sampling personnel will wear a new pair of disposable gloves for each sample interval. A portion of

the remaining soil will be placed in a new plastic zip lock bag, not more than one-half full, and sealed. This sample will be for head space analysis screening in the field for volatile organic compounds (VOCs) using a PID meter. Excess soil will be placed in a labeled drum, stored on the Site pending proper disposal.

6. The soil sample will be classified and a Subsurface Exploration Log completed as described in Section 3.4.

7. The sampling equipment will be decontaminated per Section 3.10.

3.8 Monitoring Well Installation

Overburden monitoring wells will be installed at each boring location. Once the Macro Core sampler is advanced to the desired depth, monitoring wells with slotted screens will be installed in accordance with standard practices. Typical overburden well construction details are shown in Figure 1. All wells will be constructed of 1-inch, flush-threaded joint, Schedule 40 PVC riser pipe, machine slotted screen, bottom plug, and cap. The screens will be 0.010-inch slotted and generally ten feet in length.

Each 1-inch diameter well will be assembled as it is lowered into the open borehole created by the Macro Core sampler. To the extent possible, given the potential for borehole collapse, a sandpack of clean, silica sand will be placed in the annulus around the well screen to approximately two feet above the screen. Bentonite pellets or chips will be placed above the sand and hydrated. The remaining annulus will then be filled with cement/bentonite grout (ratio of 20 to 1).

At all well locations, a steel guard pipe with locking hasp will be set over each well head and cemented in place. A positive grade will be constructed of cement around the guard pipe to divert surface water away from the well. A permanent mark will be made at the top of the PVC riser to serve as a datum for all subsequent static water level measurements. Upon completion, a locking gripper well cap will be installed and locked. Monitoring well depths, and screen lengths and depths will be calculated by the environmental scientist/geologist by maintaining accurate measurements of screen and casing placed in the borehole. A Monitoring Well Construction Log form (Figure 1) will be completed that documents the well materials and depths.

3.9 Monitoring Well Development

Well development of the newly-installed wells will be necessary to remove sediments (silt, clay, and fine sand) from the well screen, well bottom, sand pack and formation. This will increase the hydraulic conductivity immediately around the well, thus increasing the well yield for sampling. Just as importantly, it will decrease turbidity that could potentially interfere with chemical analysis. No well will be developed sooner than 24 hours after installation. This will assure that the grout or bentonite seal will be set before increasing the flow to the well. The wells will be developed by surging, bailing, and pumping. Reasonable means will be taken to develop the wells to a turbidity of 50 NTUs or less, however, if the site soils are composed of a high percentage of silt and/or clay, a turbidity value of 50 NTU or less will not likely be achieved.

The monitoring wells will be developed utilizing surge and purge methods. The back and forth flow created within the screened interval dislodges fine sediments in the formation, sand pack, and screen, suspending fines so they can be removed.

The wells will be purged a minimum of 5 well volumes using a dedicated 3-foot long, ¾-inch diameter polyethylene bailer attached to a 1/8-inch, dedicated, nylon or polypropylene rope. The surging will be accomplished by rapidly raising and lowering the bailer within the screened interval. The bailer will then be used to obtain a water sample to monitor the color, turbidity, odor, and sand and silt content of the well water during and after the development efforts.

The bailing rope and polyethylene bailer will be dedicated to each well to prevent cross-contamination during development. The dedicated bailer can be utilized in the future when the wells are purged for groundwater sampling.

All of the development water from the monitoring wells will be containerized and sampled for waste disposal parameters.

3.10 Decontamination of Drilling and Sampling Equipment

Drilling equipment including rods, samplers, tools, drill unit and any piece of equipment that can come in contact with the formation will be cleaned with a high

temperature/high pressure water wash prior to the start of work and between each boring to prevent cross-contamination between borings. The equipment will also be cleaned using the same procedure at completion of the work (before leaving the site) to prevent any contamination from leaving the site. A temporary decontamination station will be constructed on the Site, and will consist of wooden planks and heavy-gauge plastic sheeting to contain the decontamination water.

Between each sample interval, sampling equipment including hand trowels, split-spoon samplers and Macro Core samplers will be cleaned using the following procedure:

1. Remove any excess soil remaining on the split-spoon sampler.

2. Prepare a solution of tap water and non-phosphate detergent (i.e. Alconox) in a wash bucket, and scrub the equipment with a brush to remove any adhering particles.

3. Rinse the equipment with copious amounts of tap water.

4. Place clean equipment on clean polyethylene sheeting.

5. Reassemble the clean Macro Core sampler.

6. New disposable gloves will be worn when cleaning and handling the equipment to avoid contamination.

7. The water in the wash and rinse buckets will be changed frequently to avoid cross contamination.

The decontamination rinse water will be collected and placed in 55-gallon drums and stored at the project site until laboratory analyses results of the soil and groundwater samples indicates the proper method of treatment or disposal as detailed in Section 11. Disposable protective clothing such as tyvek suits, gloves, etc. will be placed in a garbage bag and disposed of as a solid waste. The personnel decontamination procedures are detailed in Section 10.1 of the Site Specific Health and Safety Plan.

3.11 Decontamination of Excavation Equipment

The excavating equipment (bucket only) will be decontaminated with a high pressure

wash and rinse. The equipment will be washed over a temporary decontamination pad which will collect wash/rinse water. A pumping device may be used to transfer the liquids into 55-gallon drums.

4.0 SOIL SAMPLING PROCEDURES

4.1 Headspace Analysis

The soil samples collected from the test boring investigation and test pit and trench excavations will be screened for the presence of petroleum-related hydrocarbons by headspace analysis utilizing a photoionization detector (PID), to subjectively assess the recovered soil samples for evidence of petroleum contamination. A portion of each soil sample will be transferred from the excavation or the Macro Core sampler into a zip-lock bag, sealed, shaken and then the bag will be set aside for several minutes. Once the sample has had a chance to "volatilize," the head space inside the bag will be screened by inserting the tip of the PID through the bag, as described in Section 3.7.

4.2 Analytical Soil Sampling

Select recovered soil samples will be retained and submitted for laboratory analysis to assist in defining the horizontal and vertical extent of the contamination at the project site. The soil samples will be analyzed for the Target Compound List (TCL) volatile and semi-volatile organic compounds by EPA Methods 8260 and 8270 respectively, Pesticides and PCBs by EPA Methods 8081 and 8082, respectively, and the Target Analyte List (TAL) metals by standard methods. The soil samples will be extracted from the sampling equipment in a timely fashion such that the soil sample has limited exposure to the outside air reducing the chance for volatilization. The interval chosen to be analyzed will be based, in part, on headspace analysis results and visual observations of staining and/or odor. If no appropriate interval for analysis is clearly indicated by field screening techniques, the sample from just above the water table shall be retained for analysis. Only new pre-cleaned laboratory provided sample containers will be used for sample collection/analyses. The container type and preservative requirements for soil samples are summarized in Table 2.

TABLE 2 - Soil Sampling Containers and Preservatives

PARAMETER	CONTAINER	TOP	PRESERVATION
VOCs / EPA 8260	4-oz Glass	Teflon	Cool, 4°C
Semi-VOCs / EPA 8270	8-oz Glass	Poly	Cool, 4°C
Pesticides / EPA 8081	8-oz Glass	Poly	Cool, 4°C

PARAMETER	CONTAINER	TOP	PRESERVATION
PCBs / EPA 8082	8-oz Glass	Poly	Cool, 4°C
Metals / EPA 6010/7000	8-oz Glass	Poly	None

5.0 GROUNDWATER SAMPLING PROCEDURES

5.1 General

During groundwater sampling, it is important to follow strict protocol during the collection and transportation of groundwater samples. This minimizes the potential for sample variation from well to well due to sampling and transportation techniques. Quality control measures will be instituted as discussed in Section 7.0 of this document and the QAPP as a check on the procedures being utilized so that the quality of the data can be assessed. The groundwater samples will be analyzed in the laboratory for Target Compound List (TCL) volatile and semi-volatile organic compounds by EPA Methods 8260 and 8270, respectively, TCL Pesticides and PCBs by EPA Methods 8081 and 8082, respectively, and the Target Analyte List (TAL) metals (unfiltered) by EPA Methods 6010 and 7471, following the QA/QC procedures outlined in the QAPP.

Prior to sampling, the water level in the well will be measured, and the well will be purged and allowed to recover to near static conditions. Groundwater samples will be taken for field and laboratory analyses. The field parameters to be determined are pH, temperature and specific conductance. All pertinent groundwater sampling information will be recorded on a C.T. Male Groundwater Services Field Log. A separate log will be completed for each monitoring well sampled. Logs will be dated and signed by the person making the entries and will be submitted to the project manager for inclusion in the project files. The following information will be included on the log forms:

1. Project name and location.
2. Date and times.
3. Monitoring well identification number.
4. Bailer type and identification number, if any.
5. Well development data.
6. Physical characteristics of samples.
7. Field analyses results.
8. Name of sampler(s).

9. Recovery times of wells.

10. Any additional observations/information.

An Environmental Services Field Log will also be completed for the groundwater sampling event. A blank copy of the referenced forms are enclosed in Appendix A.

5.2 Preparation for Sampling

Prior to groundwater sampling, the equipment and containers needed for sampling will be collected and prepared. New disposable polyethylene bailers, or the dedicated bailers used for well development, will be utilized to conduct the groundwater sampling. New disposable gloves will be worn during equipment cleaning and decontamination, and handling of the media being sampled. Only new pre-cleaned, laboratory-provided sample containers and caps will be used for sample collection/analyses. All sample containers required to be fixed with a preservative will be prepared by the laboratory before each sampling event. The container type, cap type and preservative requirements for the analytical parameters (water) to be analyzed are summarized below in Table 1.

TABLE 1
Analytical Requirements for Containers and Preservatives for Water Sampling

PARAMETER	CONTAINER	TOP	PRESERVATION	COMMENTS
VOCs per EPA 8260 (Water)	(3) 40-ml vials (preserved)	Septum	HCl to pH<2 Cool, 4°C	NA
Semi-VOCs per EPA 8270 (Water)	(2) 1L amber glass	Teflon	Cool, 4°C	Store in dark.
Pesticides per EPA 8081 (Water	(2) 1L amber glass	Teflon	Cool, 4°C	NA
PCBs per EPA 8082 (water)	(2) 1L amber glass	Teflon	Cool, 4°C	NA
Metals per EPA 6010/7000 (Water)	500-ml Plastic	Poly	HNO_3 to pH <2	NA

Sample labels will be prepared prior to sampling and will be affixed to the sample containers. The client, project name, site location, matrix, sample type (grab/composite), preservative and laboratory analyses to be performed will be recorded on the sample labels by the laboratory. The sample location (i.e., monitoring well ID), date, sampler's initials and time will be filled out on the sample label at the time of sampling.

Upon arrival at the sampling location, the well will be observed for any damage, the cover of the curb box will be cleared of any debris and unbolted. Clean polyethylene sheeting will be placed adjacent to the well to protect purging and sampling equipment from contamination. The cap and top of the well casing will be wiped with a clean cloth and then the cap removed. A PID reading will be collected at the wellhead when the well cap is removed. The water level in the well will then be measured.

5.3 Measuring the Water Level

Prior to sampling and purging, static water levels will be measured using a water level indicator to determine the standing water column height. A full set of water levels will be collected from all wells prior to initiating the water sampling. The water column height and total depth of the well are used to calculate the well water volume. Non-vented well caps will be removed for a period of ten minutes to allow the water column to reach static conditions prior to taking the water level measurements. Refer to Section 10.0 for a detailed description of water level measurement procedures.

5.4 Well Development Procedures

Prior to sampling of the groundwater, it is necessary to purge the wells. Purging of the wells allows for a representative sample to be taken from the screened interval of the well by removing stagnant water from the well.

A minimum of three well volumes of the standing water will be removed from the well. The volume of standing water in the well is calculated by subtracting the water level height from the well depth measurement, and multiplying this value by a conversion factor. The conversion factor is based on the well casing diameter and converts linear feet of water into gallons. In cases where the water recharges at a slow rate, the well will be purged dry when possible.

New dedicated polyethylene bailers or a peristaltic pump with new tubing will be used to purge the wells. Bailers will be dedicated to an individual well during sampling events. If an alternative purging method is used it will be documented on the Groundwater Services Field Log form. A new, clean piece of polypropylene rope will be used at each individual well and will be properly discarded after each sampling event. Physical observations of the purge water will be noted and recorded in the groundwater sampling log. The actual quantity of purge water removed from the well will be measured by using a bucket graduated in gallons, and the volume will be recorded. Following the removal of each well volume, field parameters consisting of pH, temperature, specific conductivity and turbidity will be measured as described below in section 5.5. Purging will continue until stabilization of field parameters is observed. Stabilization is defined as 10% or less variation in turbidity, specific conductivity and temperature.

Once purging is complete, the bailer or alternate purging device will be removed from the well and placed on the clean polyethylene sheeting adjacent to the well, until completion of the groundwater sampling.

All of the purge water from the monitoring wells will be discharged into 55-gallon drums and stored at the project site until laboratory analyses results of the soil and groundwater samples indicate the proper method of treatment or disposal.

5.5 Field Analyses

The field analyses of groundwater include pH, temperature, specific conductivity and turbidity. These parameters will be measured in the field since they change during storage. A minimum 40-ml sample will be collected and placed in clean unpreserved polyethylene or glass containers for analysis. The containers will be covered if the measurements are not recorded immediately.

The pH, temperature and conductivity of a sample are measured with a portable unit capable of measuring all three parameters concurrently. The portable unit automatically adjusts to compensate for the temperature of the sample. The turbidity of a sample is measured with a separate portable unit. The pH, temperature, conductivity and turbidity will be recorded on the Groundwater Services Field Log. These units will be calibrated to known standards prior to start of field activities. Measurement and

instrument operating procedures for these field analyses are presented in Section 8.0 of this FSP.

5.6 Sample Collection

Groundwater samples will be collected using new disposable bailers or disposable bailers that were dedicated to specific wells for the sampling event. Prior to sample collection, the wells will be allowed to recover to at least 80% of their initial static water level. Slow recharging wells will be allowed to recover for a period of three hours before sampling. Recovery times and water depths will be recorded on the Groundwater Services Field Log form. Attempts will be made to collect all samples away from operating or idling equipment and vehicles.

A new pair of disposable sampling gloves will be used to handle the sampling equipment and containers at each sampling location. Only non-powdered sampling gloves will be used during sampling for metal analytes.

The disposable bailer will be lowered slowly into the well to minimize the aeration of the samples. Volatile samples will be collected first, then in order of decreasing volatility of the parameters for which the sample is being analyzed.

In order to insure the integrity of samples, sample containers must be filled properly. The following sections contain general procedures for sampling and specific procedures for sampling volatile organic compounds. Care shall be taken in sampling to assure that analytical results represent the actual sample composition.

A. General Sampling

1. Don't remove caps until the actual sampling time and only long enough to fill the container.
2. Identify every container by filling out the label with all the required data.
3. Fill all containers completely.
4. Some bottles may contain a fixative which should <u>not</u> be rinsed out of the bottle. Read the sample label treatment and fixative section to determine if a preservative/fixative has been added. Be careful not to contact fixatives with skin or clothing. If this should occur, rinse liberally with water.

5. After the sample is taken, wipe the container with a paper towel and place the container in a cooler with ice packs, to maintain the cooler at 4°C.

6. Complete the Groundwater Services Field Log and Chain of Custody Record forms.

7. Deliver or ship samples to the laboratory within 48 hours.

B. Sampling for Volatile Organic Compounds

1. Samples are to be collected in glass containers having a total volume in excess of 40 ml with open-top screw caps with Teflon-faced silicone septa. Sample containers will have hydrochloric acid (HCL) added to them as a preservative. This preservative must not be rinsed out.

2. A transport blank should be prepared from organic-free water and carried through the sampling and handling procedure. It will serve as a check for transport and container contamination.

3. Fill sample container slowly to minimize aeration of the sample, until a curved meniscus is observed over the bottle rim.

4. Float the septa, Teflon™ side down, on the liquid meniscus. The Teflon™ side is the thin layer observed when viewing the septum from the side horizontally.

5. Carefully set on septum, expelling excess sample and being careful to exclude air. Then screw open-top cap down.

6. Check for a good seal by inverting bottle and tapping and checking for visible air bubbles.

7. If air bubbles are visible or there is a bad seal, remove cap and add additional sample and repeat steps 4 to 6.

8. Groundwater samples for volatile analysis will be taken in triplicate.

At completion of the sampling the well cap will be replaced; and the cover to the guard pipe will be closed and locked. The rope, gloves, and sheeting will be properly

disposed of, and the polyethylene bailer will be hung in the well using either a simple polyethylene string or stainless steel wire harness.

6.0 SOIL GAS SURVEY

A soil gas survey will be conducted following characterization of soil and groundwater conditions on portions of the Site where the proposed Fire Department building will be located. The number and location of soil gas samples will be determined based on the results of soil and groundwater sampling. The following general procedures will be employed during the survey. Where asphalt or other impervious surface materials exist, the use of mechanical methods (i.e. saw, drill etc.) may be used to penetrate the surface material for soil gas sampling operations.

6.1 Sample Point Installation

To facilitate the vapor sample collection a temporary sample point method will be used. Connect the polyethylene or polypropylene tubing to the expendable drive point. The expendable drive point is threaded such that the tubing should be screwed into place. Insert the tubing through the steel drive monitoring rod so that the tube rests on the lip of the expendable drive point. Advance the soil gas monitoring rod, tubing and expendable drive point assembly to a minimum depth of five feet with available means (i.e., slide hammer, sledge hammer, hand auger, geoprobe unit etc.).

Note: If sample point refusal is encountered at a depth less than five feet, the point will be removed and another attempt will be made within five feet of the original location. Record the distance and direction from the original location in daily field notes. If four unsuccessful attempts are made, the location where the deepest depth was achieved will be utilized for soil gas sampling.

Note: No soil gas sample will be collected from below grade locations where groundwater is present and saturated soil conditions prevail at the depth of the screen point. Adjustments should be made in the target depth below grade to assure that the sample depth is one to two feet above the saturated soil condition or surface of the groundwater table. Water level gauging of nearby wells may assist in the determination of the local groundwater depths.

The soil gas monitoring rod is then removed and the orifice around the sample point and tubing is backfilled with coarse sand or glass beads such that a sampling zone of 1 to 2 feet in length is created. A minimum 3-foot bentonite seal will be placed above the

sampling zone to the surface. Sufficient time will be provided for hydration of the bentonite seal prior to soil gas sampling. The area atop of the ground surface immediately surrounding the hole will be enclosed with a 5-gallon pail, sealed and filled with helium tracer gas to evaluate the integrity of the seal at the surface. The sample tubing will extend through a sealed penetration in the side or top of the 5-gallon pail.

After the tubing has been inserted and sealed, the tubing will be purged to remove the amount of vapor in the sample probe and tubing at a flow rate no more than 0.2 liters/minute (L/min). One to three implant volumes must be purged prior to sample collection. A portable monitoring device will then be connected to the tubing to field analyze a vapor sample for the presence of the tracer gas prior to collecting the sample for laboratory analysis to confirm adequate seal at the surface. The soil vapor probe would be considered adequately sealed if less than 20% tracer gas is detected. Once the monitoring device indicates that the probe has been adequately sealed, a laboratory supplied batch certified clean 6-liter Summa canister, equipped with a laboratory calibrated flow regulator, will be attached to the tubing and the sample will be collected at a flow rate of no more than 0.2 L/min. After terminating the collection of the laboratory analysis sample, the portable monitoring device is reconnected to the tubing from the sub-surface sampling point to confirm the seal was maintained and that the ambient air/tracer gas did not enter the sampling point. Upon completion of sampling, the tubing will be removed and the holes will be abandoned.

6.2 Sample Collection

Once the tubing is connected to the vacuum canister, the laboratory provided flow regulator will be opened for a period of two hours. At the end of this period, close the flow regulator and disconnect the tubing from the Summa canister. Remove remaining soil gas sampling assembly from the ground and discard tubing. The sub-surface vapor samples will be shipped to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory, and analyzed for volatile organic compounds by EPA Method TO-15 (full scan).

6.3 Decontamination

If possible, decontaminate steel drive monitoring rod and expendable shield point for

reuse at other locations. The decontamination procedure should include the following:

- To the greatest extent practical, disassemble equipment during the decontamination process.
- Physically remove (e.g., brush) any soil adhered to the equipment.
- Scrub/wash the items with non-phosphate detergent and tap water.
- Rinse the item using tap water.
- Air-dry the item where practical.
- Wrap the item in clean aluminum foil (or plastic for larger items) if not immediately re-used.
- If sampling equipment is noticeably impacted by organic compounds (i.e. odor, sheen, or detected vapors) then discard.
- Document cleaning activities in the daily field notes.

Otherwise, properly dispose the soil gas sampling equipment that can not be adequately decontaminated and use new equipment.

7.0 QUALITY CONTROL DURING SAMPLING IN THE FIELD

Quality control samples will be taken during the field sampling to monitor sampling technique, sampling equipment cleanliness, sample variability, sample handling and laboratory performance (analytical reproducibility). The quality control samples will include replicate samples, equipment/field blanks and transport blanks.

Replicate samples are samples taken from the same location with the same sampling device. Replicate samples are used to check on laboratory reproducibility, sampling technique and sample variability. The replicate samples will be coded so that the laboratory is not biased in performing the analyses. The code that is used will be identified in the field notes and on the sampling logs, but not on laboratory correspondence.

One replicate soil and one replicate groundwater sample will be taken for every twenty (20) investigative samples submitted to the laboratory for analysis. The replicate soil samples, except for VOC analysis, will be collected after the desired sampling interval is thoroughly mixed in a stainless steel bowl to achieve a homogeneous sample and then equally split into the various analytical containers. The replicate soil samples for VOC analysis will be placed into the appropriate container immediately upon retrieval from the sampler (surface soil, excavation or Macro Core). The replicate groundwater samples, except for VOC analysis, will be taken by splitting the sample by alternating the discharge tubing between both sets of containers (sample and replicate containers) until the containers are filled. The replicate groundwater samples for VOCs analysis will be taken by filling one container completely and then filling the replicate container completely. Groundwater samples for VOCs analysis are typically taken in triplicate, so this procedure will be repeated three times using a new full bailer of water each time.

Equipment/field blanks are samples taken to monitor sampling equipment cleanliness and decontamination procedures during field sampling. One equipment/field blank will be taken during soil and groundwater sampling for every twenty (20) investigative samples submitted to the laboratory for analysis of all of the parameters of concern. The equipment/field blanks will be taken as follows per the environmental media being sampled:

Soil Sampling - After the Macro Core sampler has been decontaminated and reassembled, or the sampling trowel for the site wide surface soil sampling is ready for sampling, pour deionized water through and over the Macro Core sampler, or trowel and collect it in the sample container(s).

Groundwater - After the bailer has been decontaminated or a new disposable bailer is removed from its packaging and is ready for sampling, pour deionized water into the bailer and then into the sample container(s).

Soil Gas - The duplicate sample will be collected in the same manner as the other samples except the tubing will be split using a tee-fitting. The tee-fitting will direct the vapor being extracted to each of the Summa canisters concurrently. The trip/field blank is provided by the lab, retained with the samples unopened, and returned to the lab for analysis to evaluate for the presence of compounds not relating to the site.

The equipment field blanks will be identified as such and by the location to be sampled (i.e., equipment blank before SB-8, 2 to 4 feet; or before MW-5).

Transport blanks are prepared when VOCs analysis is to be performed on aqueous samples, and they are prepared in the laboratory when the sample containers are prepared. Transport blanks will be prepared in triplicate by filling 40-ml glass containers (with Teflon™ lined septum) with deionized water. These containers will travel unopened with the sample containers and be analyzed for the same volatile constituents as the samples being submitted. The transport blanks are taken to monitor whether the samples have been contaminated during transport, as a result of handling in the field, during shipment or during storage in the laboratory. One transport blank will accompany each set of samples (soil or water) that are shipped/delivered to the laboratory for VOCs analysis.

The analyses to be performed on the replicate, equipment/field blanks and transport blanks are presented in Table 2 of the QAPP. Additional QC/QA procedures are discussed in the QAPP.

8.0 FIELD INSTRUMENTATION OPERATING PROCEDURES

8.1 General

The field instruments that will be utilized during implementation of the site investigation are: a photoionization detector (PID) meter for air monitoring of the total VOCs during drilling, and for headspace analysis of soil samples for total VOCs; and a pH/conductivity/thermometer meter and turbidity meter for field analysis of groundwater samples for these parameters. The field instruments used will be calibrated and operated in accordance with the manufacturer's instructions and the procedures identified in the following sections. Additionally, ambient dust monitoring will be conducted during test pit/trenching activities to provide "real time" measurement of dust generated as part of these activities.

8.2 Photoionization Detector Meter

A MiniRae PID meter and data logger with a 10.6 eV lamp will be utilized to measure total VOCs. The instrument is calibrated at the factory upon purchase and annually thereafter using certified service shops who utilize standards of benzene and isobutylene. Prior to use in the field, the instrument will be calibrated in accordance with the manufacturer's instructions using a disposable cylinder containing isobutylene obtained from Pine Environmental Services, Inc. of Hightstown, New Jersey. The calibration value varies by the manufacturer, however, 105 parts per million is commonly utilized by C.T. Male. During use the PID meter will be calibrated at least once every 8 hours. The calibration procedure is contained in the MiniRae PID User's Manual.

Care will be taken when handling and using the PID meter to prevent any debris from entering the sample line which will affect the instrument's operation. If this occurs the field personnel will clean the unit or replace it with a functional PID meter.

8.3 Temperature, PH and Specific Conductivity Meter

8.3.1 General

The Oakton Portable pH/Con 10 meter, or equal unit, will be used to measure temperature, pH and conductivity. This instrument is equipped with an automatic temperature control for accurate adjustment to the temperatures of the samples and calibration standards. The temperature range is 0°C to 100°C with accuracy of ±0.5°C.

8.3.2 pH

Prior to collecting the pH readings, the pH meter will be calibrated with standard buffer solutions of pH 4.0, 7.0 and 10.0 with the unit automatically correcting the temperature. The instrument will be calibrated prior to use each day to ensure accurate measurements. Calibration procedures are presented in the manufacturer's operating instructions.

The pH measurement will be taken by setting the meter function to pH mode, immersing the electrode in the sample (after rinsing the probe with deionized water), gently stirring the water with the electrode probe until equilibrium is reached, and recording the pH when the instrument displays "ready." The pH electrode will be rinsed with deionized water after taking a measurement. The manufacture recommends that the electrode be stored in an electrode storage solution when not in use.

8.3.3 Specific Conductivity

Prior to collecting specific conductance readings, the instrument will be calibrated prior to use each day to ensure accurate measurements. Calibration will be performed using standards of 147.0, 717.8 and 1,413 umhos/centimeter, being sure the instrument is showing automatic temperature correction. Calibration procedures are presented in the manufacturer's operating instructions.

The conductivity cell will be rinsed with distilled water before and after use. The measurement will be taken after rinsing the conductivity probe twice with the sample, immersing the probe in the sample and recording the measured value when the instrument reads "ready."

8.4 Turbidity Meter

A LaMotte Turbidimeter (Model 2008) or equal unit will be used to measure turbidity. The Model 2008 is a true nephelometer, measuring the amount of light scattered at right angles from a beam of light passing through the test sample. The instrument range is 0 to 19.99 NTU (20 scale) and 0-199.9 (full scale). The accuracy of this instrument is ±2% of the reading or 0.05 NTU, whichever is greater. The turbidity is pre-calibrated from the manufacture, but is regularly calibrated to known standards of typically 4 and 40 NTU.

The turbidity measurement is collected by pouring a sample into a dedicated VOA vial or cuvette. The cuvette is wiped clean and then inserted into the instrument's chamber and covered. The reading is noted once stabilized.

8.5 Dust Monitors

C.T. Male will utilize two TSI DustTRAK real-time particulate monitors capable of continuously measuring concentrations of airborne dust, smoke, mists, haze, and fumes with real time readout (or equivalent). The instrument will continuously data log readings at a set recording interval and will be downloaded weekly by C.T. Male field personnel. This instrument will detect particles from 0.1 to 10 micrometers in size. The instruments will be placed at temporary monitoring stations based on the prevailing wind direction each day, one upwind and one downwind of the work area. The short-term exposure limit (STEL) is a 15 minute time-weighted average (TWA) exposure that is also measured by the particulate monitors. Dust monitoring equipment is calibrated by the supplier and zeroed daily in the field prior to each day's use.

9.0 SAMPLE HANDLING AND CHAIN OF CUSTODY PROCEDURES

Just prior to sampling and filling the sample containers, the label on the container will be completed with the required information. After filling the sample containers they will be wiped with a paper towel, and placed in a protective bubble or foam wrap for protection during transport. The container(s) will be placed in a cooler with double bagged ice packs, to maintain a temperature of 4°C.

A Chain of Custody Record will be completed by the sampler in the field after securing analytical samples. The sampler will be responsible for retaining possession of the samples until they are delivered to the laboratory or until they are delivered to a courier or common carrier for shipment to the laboratory. When the samples are released from the custody of the sampling personnel, the Chain of Custody Record will be signed by both relinquishing and receiving parties with the date and time indicated. A copy of the form will be retained by the sampler for inclusion in the project files and the original form will accompany the shipment. The Chain of Custody Record will then be signed by the relinquishing party and receiving laboratory personnel when the samples are ultimately received at the laboratory.

If samples are shipped, a bill of lading or an air bill will be used and retained in the project files as documentation of sample transportation. Prior to shipment, the cooler will be securely wrapped with clear tape to protect it from tampering. A separate additional Chain of Custody Record will be completed for each cooler of samples. This form will be placed in a plastic bag and taped to the underside of the cooler lid. This form will be used by the laboratory personnel as a check to verify that the containers listed on the form are present in the cooler when they are received at the laboratory. A copy of the signed Chain of Custody Record will accompany the laboratory analysis reports. A blank Chain of Custody Record form is enclosed in Appendix A.

10.0 WATER LEVEL MEASUREMENT PROCEDURES

Water levels will be measured in the monitoring wells using a sonic water level indicator probe. The water levels will be measured from the surveyed reference point to the nearest 0.01 foot. Water levels will be measured progressively from upgradient monitoring wells to downgradient monitoring wells, attempting to measure water levels from the cleanest well to the dirtiest well.

To avoid possible cross-contamination of the wells, the water level indicator will be decontaminated prior to and following the water level measurement of individual wells. The water level indicator will be decontaminated by rinsing it with distilled water or tap water, then rinsing it with methanol and wiping it with a clean cloth or paper towel and then rinsing it with copious amounts of distilled water.

The water depth levels and reference elevations determined from the monitoring well survey will be recorded on a Water Level Record form and the water table elevations calculated. A blank copy of this form is presented in Appendix A.

11.0 INVESTIGATION DERIVED WASTES

Investigation derived wastes (i.e. decon water, excess soil, purge water and development water, etc.) will be placed in 55 gallon drums and stored on site. All drums will be properly labeled and sealed pending review of analytical results. Upon review of laboratory result the proper disposal method will be determined.

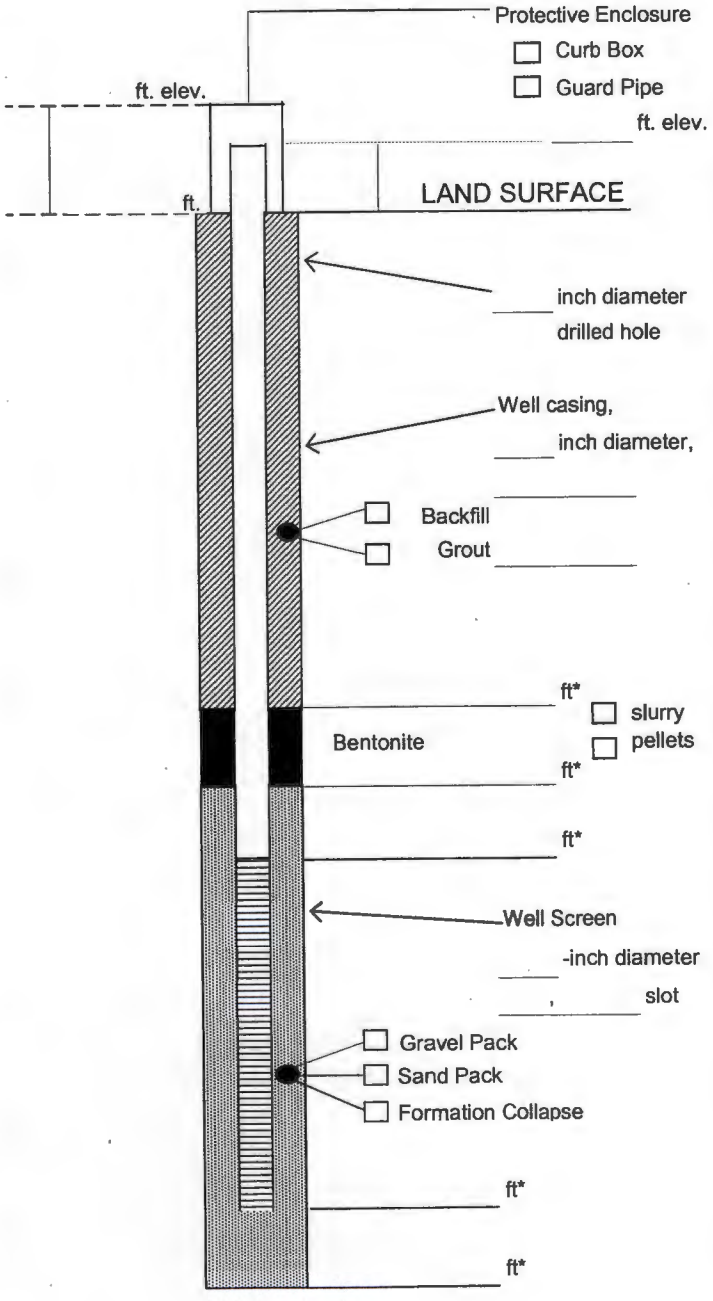
FIGURE 1

TYPICAL OVERBURDEN MONITORING WELL DIAGRAM

Well No. _____

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number _____

Project Name _____

Well No. _____ Boring No. _____

Town/City _____

County _____ State _____

Installation Date(s) _____

Drilling Contractor _____

Drilling Method _____

Water Depth From Top of Riser _____ ft _____ Date

C.T. Male Observer _____

Notes:

APPENDIX A

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) FORMS

and

FIELD REPORT FORMS

C.T. MALE ASSOCIATES, P.C.

WATER LEVEL RECORD

Project Name ____________________________

Location ________________________________

Method or Reading________________________

Project Number ________________________

Measurement Taken By ________________

Datum________________________________

		Date ________		Date________		Date________	
Well No.	Ref. Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.

Measuring Point(s) ____

____

Groundwater Services Field Log

DATE: _____ PROJECT NAME: _____

PROJECT NO.: _____ PROJECT LOCATION: _____

SAMPLING PERSONNEL: _____

MONITORING WELL ID#: _____ NOTES TAKEN BY: _____

DEPTH TO WATER: _____ FROM: _____ BAILER ID: _____

DEPTH TO BOTTOM: _____ FROM: _____ BAILER: LAB CLEANED / FIELD CLEANED

WATER COLUMN HEIGHT: _____ BAILER: STAINLESS STEEL _____

OTHER _____

CONVERSION FACTORS LINEAR FEET TO GALLONS

1" = 0.041 GALLONS 3" = 0.38 GALLONS

1.25" = 0.064 GALLONS 4" = 0.66 GALLONS

2" = 0.16 GALLONS 6" = 1.47 GALLONS

WELL CASING DIAMETER

WELL VOLUME: _____ GALLONS

VOLUMES PURGED: _____ GALLONS PURGE METHOD: _____

TIME STARTED: _____ ; TIME FINISHED: _____

OBSERVATIONS: COLOR _____ ; ODOR _____

SHEEN _____ ; TURBIDITY _____

OTHER _____ _____

WATER RECOVERY HEIGHT: _____ ; RECOVERY TIME IN MINUTES: _____

FIELD PARAMETERS: pH _____ , TEMPERATURE _____

CONDUCTIVITY _____ UMHO/CM, OTHER _____

SAMPLE COLLECTION TIME: _____

NOTES: _____

_____

_____

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.:
ELEV.: **DATUM:**
START DATE: **FINISH DATE:**
SHEET **OF**

PROJECT: _____ CTM PROJECT NO.: _____

LOCATION: _____ CTM OBSERVER: _____

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
4					
8					
12					
16					
20					
24					
28					

DRILLING CONTRACTOR: _____ GEOPROBE TYPE: _____

METHOD OF SAMPLING: _____

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:

C.T. MALE ASSOCIATES, P.C.

Environmental Services Field Log

Date: _____ Time On-Site: _____ Time Off-Site: _____

Project Name: _____ Project No.: _____

Purpose: _____ Field Report No: _____

Weather Conditions: _____

Present at Site: _____

Observations: _____

Items to Verify: _____

List of Attachments: _____

Field Log Prepared by: _____

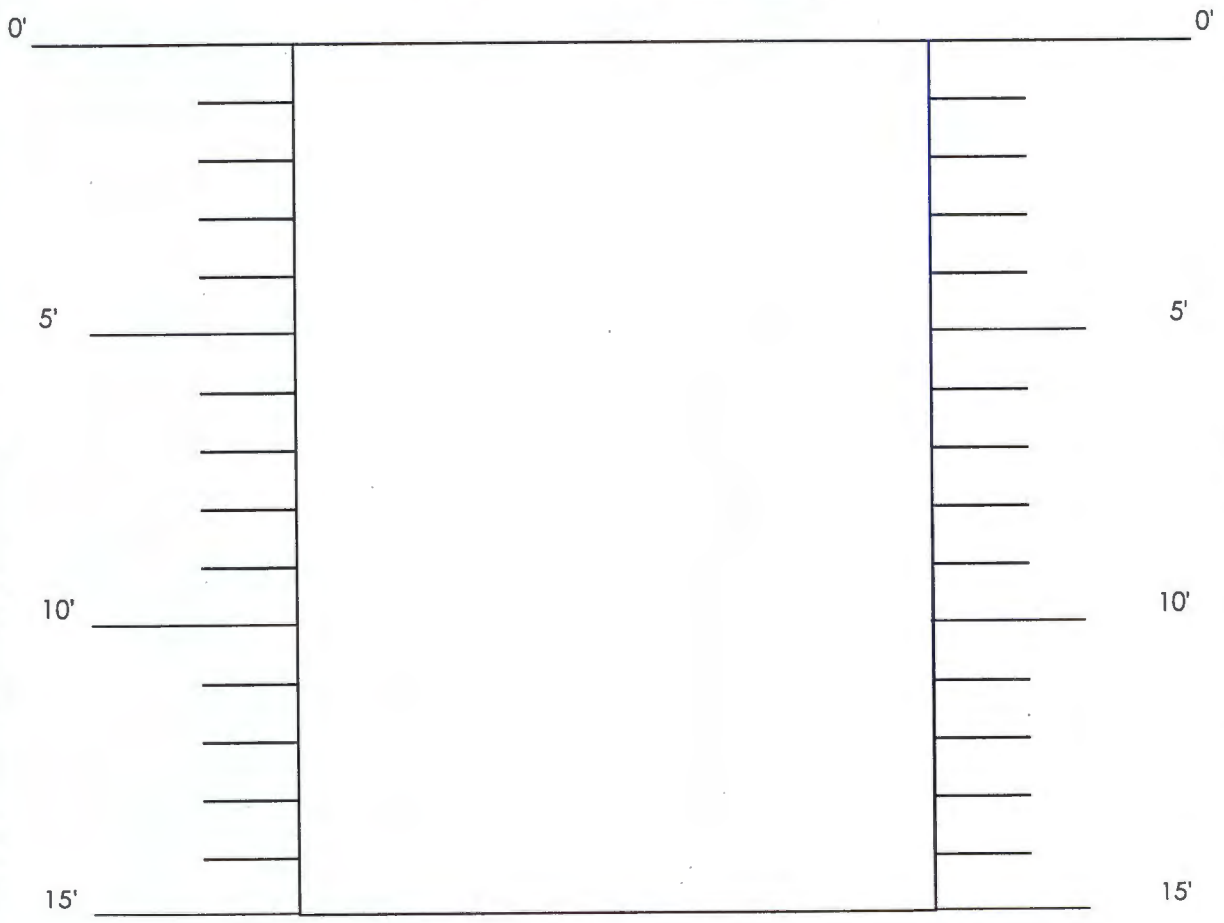
Copies to:

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: _____ EXCAVATOR: _____
PROJECT NUMBER: _____ EQUIPMENT: _____
LOGGED BY: _____ DATE: _____

TEST PIT NO. _____



TOTAL DEPTH: _____
WATER AT: _____
SIZE OF TEST PIT: _____

NOTES: _____

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	PROJECT #:	PAGE 1 OF
CLIENT:		DATE COLLECTED:
LOCATION:		
INSTRUMENT USED: LAMP EV		DATE ANALYZED:
DATE INSTRUMENT CALIBRATED: BY:		
TEMPERATURE OF SOIL:		ANALYST:

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.
**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

APPENDIX C

QUALITY ASSURANCE PROJECT PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

NYS ENVIRONMENTAL RESTORATION PROGRAM
QUALITY ASSURANCE PROJECT PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

KEY PERSONNEL AND SIGNATURES

Approved: _____ Date: 5/24/06
Project Principal
David Roecker, P.E.
Vice President, Environmental Services Division
C.T. Male Associates, P.C.

Approved: _____ Date: 5/24/06
Project Manager
Kirk Moline
Hydrogeologist
C.T. Male Associates, P.C.

Approved: John L. Tarreau (FOR) Date: 5/24/06
Project Scientist & Health and Safety Coordinator
Nathan Freeman
Environmental Scientist
C.T. Male Associates, P.C.

Approved: Elizabeth W. Rovers Date: 5/24/06
Quality Assurance Officer
Elizabeth Rovers, P.E.
Managing Engineer
C.T. Male Associates, P.C.

NYS ENVIRONMENTAL RESTORATION PROGRAM
QUALITY ASSURANCE PROJECT PLAN
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APPENDICES

1.0 PROJECT DESCRIPTION

1.1 Introduction

This Quality Assurance Project Plan (QAPP) has been prepared for the implementation of the site investigation activities at the proposed Schuyler Heights Fire Department, 849 First Street ("the site"), located in the Town of Colonie, Albany County, New York. It has been developed in conjunction with the Remedial Investigation (RI) Work Plan as prepared by C.T. Male Associates, P.C. (C.T. Male). A description of the site, available background information, objectives and the proposed site remediation scope of work are presented in detail in the referenced RI Work Plan.

This QAPP presents the organizational structure and data quality objectives (DQOs) for the site investigation, and the quality assurance (management system) and quality control methods of checks and audits to be implemented to ensure that the quantity and quality of the data required for its intended use is obtained and documented (i.e., that DQOs are met). The measurement parameters used to determine the quality of the data are precision, accuracy, completeness, representativeness and comparability and are discussed further in this QAPP.

A Field Sampling Plan (FSP) has been prepared by C.T. Male as a separate exhibit and forms an integral part of this QAPP. The field sampling and data gathering procedures are presented in the FSP and incorporated into the QAPP by reference. The QAPP and FSP document the laboratory quality assurance/quality control (QA/QC) procedures and field sampling and data gathering procedures that will be followed during implementation of the site investigation scope of work so that valid data of a known quality is generated.

The project specific field QA/QC procedures and the project specific laboratory QA/QC procedures are presented in the text of this QAPP. The general internal laboratory QA/QC procedures are presented in the subcontractor laboratory's Quality Manual which will be retained at C.T. Male's office. The subcontract laboratory for this project is Chemtech Environmental Laboratory. The laboratory's certifications are included in Appendix A.

The QAPP has been prepared in a manner consistent with the following guidance documents:

- Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, USEPA, October 1988.
- Data Quality Objectives for Remedial Response Activities: Development Process, EPA/540/G-87/003, USEPA, March 1987.
- Draft DER-10 Technical Guidance For Site Investigation and Remediation, NYSDEC, December 2002.

1.2 Objectives and Scope of Work

It is the objective of the RI and this QAPP to obtain and present representative data of a known quality and sufficient quantity. The primary goal is to perform soil and groundwater sampling through a variety of investigation tasks to evaluate the quality of the site's soils, groundwater and fill. The data will help document overall protection requirements for human health and the environment based on the site's contemplated use.

To achieve these objectives, the scope of work will include the following items as presented in the RI Work Plan, in this QAPP and in the FSP: a site reconnasissance to identify areas and conditions of concern not previously identified; a fish and wildlife impact analysis; a site wide subsurface/hydrogeologic evaluation, which will include soil borings/monitoring wells, test pits and trenches; surface soil, fill and groundwater sampling and laboratory analyses, and soil vapor sampling on the portion of the Site where the proposed building is to be constructed.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

C.T. Male Associates, P.C. is responsible for the overall administration and the overall quality control/quality assurance of the site investigation and remedial activities. These will include project management, coordination and scheduling of activities in-house and with qualified subcontractors. The work tasks that will be performed by a subcontractor under C.T. Male's supervision include: advancement of exploratory test pits and trenches, soil borings and installation of monitoring wells using direct-push drilling methods, and analytical laboratory testing.

A project organizational chart listing key individuals of the project and their associated title is presented as Figure 1 at the end of this document. Personnel from C.T. Male Associates, P.C. and Chemtech can be reached at the following addresses:

- C.T. Male Associates, P.C.
  Contacts: Kirk Moline and Nathan Freeman
  Megan Drosky (Data Validator)
  50 Century Hill Drive, P.O. Box 727, Latham, New York 12110
  Phone: (518) 786-7400
  Fax No.: (518) 786-7299
  Email: k.moline@ctmale.com
  n.freeman@ctmale.com
  m.drosky@ctmale.com

- Laboratory: Chemtech
  Contact: Kurt Hummler
  Address: 284 Sheffield Street, Mountainside, New Jersey 07092
  Bus. Office: (908) 789-8900
  Bus. Fax: (908) 789-8922
  Email: Kurt@Chemtech.net

A description of the responsibilities by title of the key individuals is presented as follows:

Project Principal is responsible for the review of the RI/AAR activities and reports for their technical adequacy and conformance to the scope of work.

Quality Assurance Officer is responsible for the independent review of the RI/AAR documents and reports to check that the appropriate project documentation, of the quality control activities performed, exist and are maintained; for conducting field

and sampling audits. Analytical data will also be reviewed by this individual for accuracy and completeness.

Project Manager is responsible for the overall coordination and implementation of the project, the management of staff and resources, the implementation of schedules, the conformance by the technical staff and subcontractors to the scope of work, assessing the adequacy of the work being performed, implementing corrective action as necessary, interaction with the client and regulatory agencies, maintaining complete project documentation, and report preparation.

Health and Safety Coordinator is responsible for implementation of the project specific Health and Safety Plan, and resolution of safety issues which arise during the completion of the work. The Health and Safety Coordinator or designee will be present during the completion of the field work.

Laboratory Quality Assurance Officer is responsible for review of the laboratory data quality control procedures and documentation to determine if the QA objectives are being met; and to report non-conforming events to the laboratory technical staff and Project Manager and implement corrective action as necessary.

Laboratory Director is responsible for all activities within the laboratory, and for the performance of the laboratory work tasks in accordance with the project work plans, interactions with the Project Manager, and the adherence to project schedule.

Project Geologist/Engineer/Scientist is responsible for coordinating and conducting the field hydrogeologic activities and subcontractors, the adherence of activities to the QAPP and the FSP, evaluation of the collected data, soil classifications, report preparation and interaction with Project Manager and Project Team.

Project Team is responsible for adequately performing the work tasks in accordance with the project work plans so that the objectives of investigations and the project are achieved, notifying the Project Manager of any non-conformance to the work plan so that corrective actions can be taken as necessary, and notifying the Project Manager of unforeseen conditions so that modifications to the work plan, if necessary, can be approved and implemented.

Data Validator is responsible for review of all analytical data generated for this project. The data validator will review analytical data in accordance with New York

State Department of Environmental Conservation Guidance for the Development of Data Usability Summary Reports and preparation of a report documenting if the analytical data is valid and usable. The report will also present data rejection and qualification, where necessary, based on laboratory performance.

3.0 QUALITY ASSURANCE OBJECTIVES FOR DATA MEASUREMENT

3.1 General

The Quality Assurance (QA) objective for this project is to produce data which is technically valid and of a known quality that meets the needs of its intended use. In this section the data quality objectives are defined by describing the intended use of the data; defining the type of data needed (i.e., physical or analytical); specifying the analytical levels, as established by EPA, appropriate to the data uses; specifying the quality control checks on field and laboratory procedures and frequency of checks; and presenting the quality control acceptance criteria.

Laboratory quality assurance objectives for data measurement are established for each measurement parameter in terms of precision, accuracy, completeness, representativeness and comparability. These terms form an integral part of the laboratory's quality assurance programs in that Data Quality Objectives (DQO's) are set for each parameter.

3.2 Data Uses and Types

The data to be generated during the proposed work will be used to evaluate site conditions and monitor health and safety during implementation of the field activities. Both physical data including air monitoring and analytical data from soil, groundwater will be needed to provide the necessary information to complete the steps in the site investigation. The specific physical and analytical data proposed and its purpose are presented in the RI Work Plan.

3.3 Data Quality Needs

To support data collection activities in obtaining quality data, EPA has established a series of analytical levels that are appropriate to site investigation/remediation data uses. The analytical levels are defined as follows:

Level I	-	Field screening or analysis using portable instruments. Qualitative data.
Level II	-	Field analyses using more sophisticated portable analytical instruments. Qualitative and quantitative data can be obtained.
Level III	-	Laboratory analyses using standard EPA approved procedures.

Level IV - Laboratory analyses by NYSDEC ASP (Analytical Services Protocol) - Category B Deliverable with QA/QC protocols and documentation.

Level V - Analyses by non-standard methods.

The data collection activities, the environmental media, the intended use of the data and the corresponding analytical levels that will be used to produce the project data are summarized in Table 1.

Table 1

Summary of Work Tasks and Corresponding Analytical Levels

Data Collection Activities	Sample Media & Description	Data Use[a]	Analytical Level
Air Monitoring	Air/Ambient Air	2	I
Test Pits and Trenches, Test Borings, Monitoring Wells, Surface Soil and Subsurface Soil Sampling	Surface Soil, Subsurface Soil, Fill Material and Groundwater for Laboratory Analyses and/or Field Instrumentation.	1, 3, & 4	IV
Soil Vapor Sampling	Air for Laboratory Analyses and Field Instrumentation	2, 3, & 4	IV

Note:

(a) Data Uses Key:

1 - Site Characterization.
2 - Health and Safety and Community Air Monitoring During Implementation of Field Activities.
3 - Risk Assessment.
4 - Evaluation of Remediation Alternatives.

Another consideration besides defining the Data Quality Needs is what level of cleanup will be required for the site. The applicable or relevant and appropriate requirements (ARARs) are related to defining satisfactory cleanup efforts. In order to be able to evaluate the data generated with respect to potential ARARs, the samples will need to be analyzed by analytical methods that can achieve detection limits below or at existing ARAR values. The analytical methods selected for this project are designed to achieve ARAR values.

3.4 Quality Control Checks and Acceptance Criteria

To monitor and document the integrity of such factors as sample variability, sampling equipment cleanliness, sampling technique, analytical reproducibility and sample handling which can affect data quality, several field quality control checks will be implemented. These will include taking equipment/field blanks after the sampling equipment has been decontaminated to check for cross contamination and equipment cleanliness; taking replicate samples to monitor analytical precision/ reproducibility and sampling technique; and preparing transport blanks to be transported with the sample containers for volatile analyses to monitor sample handling. For this project the field Quality Control (QC) checks will consist of one equipment/field blank, and one replicate sample, during sampling activities for every twenty (20) analytical samples per media type (i.e. soil, groundwater). A transport blank will be prepared for each sample set to be submitted for volatile analyses.

Laboratory quality control checks will be those specified in EPA Methods or in the NYSDEC ASP (Revised 2000) for the analytical method performed and could consist of some of the following:

- Blanks (method, preparation),
- initial and continuing calibrations,
- surrogate spikes,
- matrix spikes/matrix spike duplicates,
- duplicate samples, and
- control samples/matrix spike blanks.

The laboratory will be responsible for performing what is necessary for complying with appropriate standards and certifications of the selected EPA method and ASP requirements. The laboratory quality control acceptance criteria is method specific and will be the laboratory's responsibility to meet ASP (Revised 2000) criteria.

4.0 SAMPLING PROCEDURES

Procedures for sampling are presented in the Field Sampling Plan (FSP) and include the following:

- selection of sampling sites and media to be sampled;
- specific sampling procedures for each environmental media to be sampled, and for QC samples to be taken;
- field soil screening procedures;
- a description of the containers, procedures and equipment used for sample collection, preservation, transport and storage;
- procedures for preparing the sample containers and sampling equipment prior to sampling and decontamination of sampling equipment during sampling;
- chain of custody procedures and forms; and
- description of the procedures, forms and notebooks to be used to document sampling activities, sample conditions and field conditions.

5.0 SAMPLE CUSTODY

Proper chain of custody will be established and maintained through a series of steps, beginning in the field and ending with final disposition of the analyzed sample. At the time of the field sampling, an external chain of custody form will be utilized to track sample collection until delivery to the analytical laboratory. An internal or "intra-laboratory" chain of custody will be used by laboratory personnel to track the sample(s) from the point it is received/logged and passed through the laboratory process. Chain of custody procedures are discussed in detail in Section 9.0 of the FSP.

6.0 CALIBRATION PROCEDURES

Calibration procedures for field equipment including the photo-ionization detector (PID) meter, pH/conductivity/temperature meter and dust monitors are presented in Section 8.0 of the FSP. Calibration procedures for laboratory equipment/instrumentation consist of the production and use of current certifiable standards and the measurement/adjustment of the instrument response. The laboratory is responsible for maintaining records documenting use of current standards and acceptable instrument responses. The laboratory is required to flag analytical data that has had potential contamination or poor instrument calibration that may have occurred during the analytical process.

7.0 SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

The analytical parameters, sample preparation and analysis methods, acceptable holding times and required method detection limits are presented in Table 2. The analytical methods specified reflect the requirements of the NYSDEC ASP, Revised June 2000.

Table 2
Analytical Methods and Requirements

Analytical Parameters	EPA Method	Holding Times[2]	Contract Required Quantitative Limits (as noted)[1]
Volatile Organic Compounds	8260	Soil & Water: 7 Days - Unpreserved 10 Days - Preserved	10-100 ug/Kg (Soil) 1 to 10 ug/L (Water)
Semi-volatile Organic Compounds	8270	Soil & Water: 5 Days to Extraction, 40 Days to Analyze	330 to 800 ug/Kg (Soil) 10-25 ug/L (Water)
Metals	6010/7000 Series	Soil & Water: 180 Days except for Mercury 28 Days	0.3 to 500 mg/Kg (Soil) 3 to 5,000 ug/L (Water)
Pesticides	8081	Soil & Water: 5 Days to Extraction, 40 Days to Analyze	3 to 17 ug/Kg (Soil) 0.05 to 0.5 ug/L (Water)
PCBs	8082	Soil & Water: 5 Days to Extraction, 40 Days to Analyze	17 ug/Kg (Soil) 0.5 ug/L (Water)

Note:

1) The listed method detection limits are practical quantitation limits (PQLs). The method detection limit (MDL) is the best possible detection. Laboratories report PQLs which are typically 4 times the MDL for liquids and varies for solids depending on the quantity of contamination present. Efforts will be made to obtain the lowest possible detection limit. When the guidance value or standard value is below the detection limit, achieving the detection limit will be considered acceptable for meeting that guidance or standard value.

2) Holding times are relative to the verifiable time of receipt at the laboratory.

Where matrix interference is noted, analytical clean-ups will be required to be performed by the laboratory following the procedures specified in SW-846 or the NYSDEC ASP, as applicable. In general, samples shall not be diluted more than 1 to 5.

8.0 DATA REDUCTION, VALIDATION AND REPORTING

The field measurement data and the laboratory analyses results of detected parameters will be compiled and tabulated to facilitate comparison and evaluation, and will be included in the Final RI/AAR. The tabulated data will include at a minimum:

- soil analysis results;
- groundwater analysis results;
- soil vapor analysis results; and
- quality control results (field blanks, duplicates, transport blanks).

Field logs will also be compiled and included, in part, in the text and appendices of the Final RI/AAR, and will consist of:

- monitoring well construction logs;
- test pit logs;
- test boring logs;
- organic vapor headspace analysis logs;
- groundwater services field logs;
- environmental services field logs; and
- water level records.

Any observations or problems encountered during field activities which could affect the quality of the data or its validity will be noted on the appropriate field log.

The laboratory will generate ASP Category B Data Deliverable Package(s) that may be submitted as a separate volume to the RI/AAR. It will include analytical results and quality control data deliverables as required by NYSDEC ASP (Revised 2000).

Internal data validation will be performed by the laboratory QA officer to ensure that the data package is complete and meets the criteria to the work plan and this QAPP. Any problems encountered in performing the analyses by the laboratory such as out of limits surrogate recoveries, and comments on the quality and limitations of specific data and the validity of the data will be described in the case narrative of the laboratory report.

External data validation will be performed by C.T. Male Associates, P.C.'s in-house data validator, who will utilize the USEPA National and Regional Validation Guidelines/Procedures and the NYSDEC Guidance in the Development of Data Usability Summary Reports to determine the applicable qualifications of the data. The validator will then prepare a NYSDEC Data Usability Summary Report (DUSR) in accordance with NYSDEC guidelines. Please note that the data validator will not be involved in any other portions of the project. The proposed data validator's qualifications and work experience is presented in Appendix B. The NYSDEC DUSR guidance is presented in Appendix C for reference.

9.0 INTERNAL QUALITY CONTROL

Field QC will consist of taking equipment/field blanks and having transport blanks with the appropriate volatile organic compound sample sets. Field instrumentation will also be calibrated prior to use and the calibration maintained as discussed in the FSP (Section 8.0).

Internal laboratory QC will generally consist of:

- Method (instrument) blanks;
- initial and continuing calibrations;
- surrogate spikes;
- matrix spikes/matrix spike duplicates;
- duplicate samples; and
- laboratory control samples/matrix spike blanks.

The QC samples will be run in accordance with the protocols and frequencies specified in the NYSDEC ASP, SW-846 and EPA Methods as applicable for the analyses being performed.

10.0 PERFORMANCE AND SYSTEMS AUDITS

10.1 Field Audits

Field performance audits will consist of taking replicate samples and equipment/field blanks and analyzing them for the same parameters as other samples.

Field system audits will be conducted during field operation to ensure that the field activities are being conducted correctly and in accordance with the RI Work Plan. The project field supervisor will check that the field instrumentation is calibrated prior to use, that field measurements are taken correctly, that equipment and sample containers are properly decontaminated, and that the field activities are properly documented. Any deficiencies will be reported to the project manager and discussed with the field staff immediately and corrective action taken. The person conducting the field audits will document the field system audits by use of a field report and submit the report to the project manager for review on a bi-weekly basis at a minimum. The project quality assurance officer, geologist/engineer or project manager will conduct system audits as appropriate or warranted.

The project manager will review the field system audit reports and the field documentation for completeness and correctness, and check that the work is proceeding on schedule and in accordance with the work plans.

10.2 Laboratory Audits

Laboratory system audits are not required, however, the laboratory is required to maintain New York State Department of Health (NYSDOH) ELAP certification. A copy of the Chemtech Environmental Laboratory's NYSDOH ELAP certification documentation is provided in Appendix A. Part of this certification process typically includes periodic performance evaluations and on-site systems audits.

11.0 PREVENTATIVE MAINTENANCE

C.T. Male Associates, P.C. keeps an inventory of all field equipment and it is kept locked in a designated area. The field equipment is signed out when in use and its condition checked upon its return. The equipment is kept in good working order and frequently checked and calibrated by qualified employees. Additionally, select equipment (i.e., PID) is routinely serviced for cleaning and calibration by an independent repair facility.

The project geologist/scientist/engineer and field sampler are responsible for assuring that the field equipment is tested, cleaned, charged and calibrated in accordance with the manufacturer's instructions prior to taking the equipment out into the field.

12.0 DATA ASSESSMENT PROCEDURES

The field and laboratory generated data will be assessed for precision, accuracy, representativeness, completeness, and comparability (PARCC parameters). Both quantitative and qualitative procedures will be used for these assessments.

The criteria for assessment of field measurements will be that the measurements were taken in accordance with the procedures specified in the FSP using calibrated instruments. Assessment of the sampling data with respect to field performance will be based on the criteria that the samples were properly collected and handled. Field replicate and equipment/field blank sample results will be used in assessing the sampling technique and representativeness of the samples collected.

The laboratory will calculate and report the precision, accuracy, and completeness of the analytical data. Precision will be expressed as the relative percent difference (RPD) between values of duplicate samples. Accuracy will be expressed as percent difference (PD) for surrogate standards and matrix spike compounds. Completeness is a measure of the amount of valid data derived from a set of samples based on the total amount expected to be derived under normal conditions. The precision and accuracy results will be compared to the QC acceptance criteria specified for each test method in the NYSDEC ASP (Revised June 2000).

The representativeness of the analysis is dictated primarily by the field sampling technique and sample location, as opposed to laboratory operations. The laboratory will take steps to ensure that the analysis is representative of the sample being submitted. The criteria for ensuring representativeness of the analysis are careful aliquot selection and proper compositing techniques. Laboratory performance will be based on the criteria that the samples were properly handled prior to submission to the laboratory, that the laboratory aliquots taken for analysis are representative (i.e. oversized particles discarded, sample thoroughly mixed except when dealing with volatile organics), that the samples were analyzed within holding times, and that no cross-contamination has occurred based on the method blank results. Data comparability will be assessed based on analyses being performed within required holding times, on consistent units of measure, and that analyses were performed in strict adherence with NYSDEC and EPA analytical methods/protocols.

13.0 CORRECTIVE ACTIONS

The site investigation will be performed in accordance with the approved work plan, the contents of the approved FSP and the approved QAPP. Any persons identifying unacceptable conditions or deficiencies in the work being performed such as deviation from or omission of health and safety procedures, sampling procedures or other field procedures, will immediately notify the project field supervisor, where applicable, and the project manager. The unacceptable conditions or deficiencies will be documented and submitted to the project manager. The project manager, with assistance from the technical quality review staff, if necessary, will be responsible for developing and initiating appropriate corrective action, documenting the corrective action and verifying that the corrective action has been effective.

Depending on the significance and potential impact of the problem or deficiency requiring corrective action, the NYSDEC and the Schuyler Heights Fire District will be notified, as warranted, as soon as practical after becoming aware of the situation.

14.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT

Field system audit/field reports from the project team, where applicable, will be submitted to the project manager on a weekly basis at a minimum. The field report will include the project name, location, time, date, weather, temperature range, work in progress, conformance with schedule, persons present at the site (arrival and departure times), observations, work start-up and stoppage, items to verify, information or action required any attachments identified, and the reporting persons signature. The field report notifies the management as to the progress, conformance with the work plan, and any problems that may affect quality control. Field personnel will also keep log books and field notebooks that will discuss day to day procedures followed, any problems encountered, etc. A copy of the field notes will be given to the project manager at least bi-weekly to keep the project manager informed of the project status and as a quality control check. The project manager will review the reports and field notes to assess the quality of the investigating data gathering efforts to make sure the objectives of the work are being met, to make sure the work is progressing on schedule, that the work is being conducted in accordance with the work plan, and that any problems encountered are addressed. These reports will be utilized in assessing the data quality with respect to field activities and the findings will be discussed in the RI/AAR where applicable.

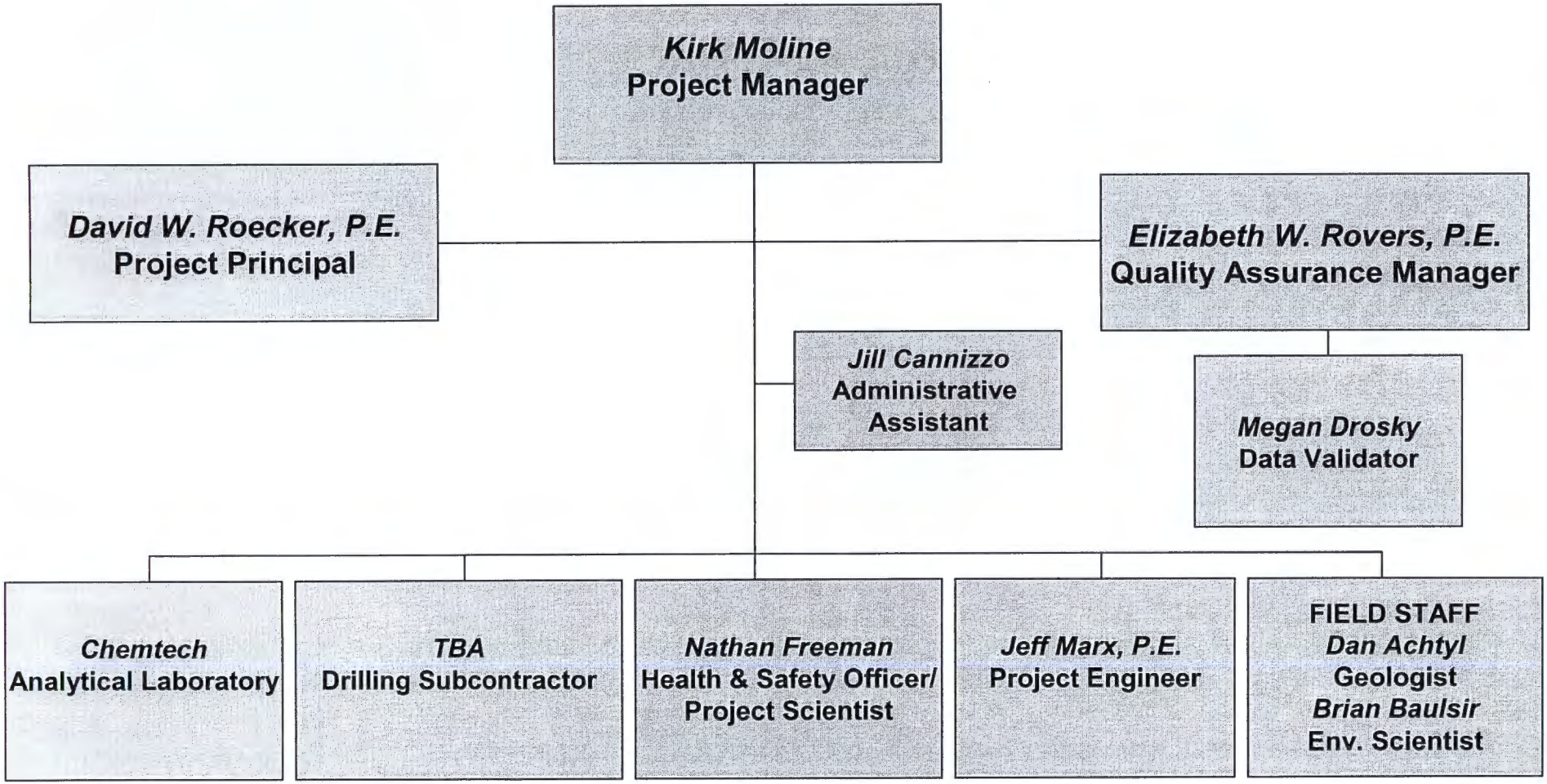
Documentation of each phase of the project and all work tasks performed are kept in the file on the project. The documentation is available at all times for review by the Quality Assurance Officer, who will randomly check files for their completeness.

If any occurrences or conditions are encountered during the course of work that may require a change in the scope of work or departure from the approved work plan, the NYSDEC will be notified and the situation reported as soon as possible.

FIGURE 1

Project Organizational Chart

C.T. MALE ASSOCIATES, P.C.



APPENDIX A
Laboratory Certification

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Wadsworth Center The Governor Nelson A. Rockefeller Empire State Plaza P.O. BOX 509 Albany, New York 12201-0509

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

LAB ID: 11376

April 10, 2006

MR. DIVYAJIT MEHTA
CHEMTECH
284 SHEFFIELD STREET
MOUNTAINSIDE, NJ 07092

Certificate Expiration Date: April 01, 2007

Dear Mr. Mehta,

Enclosed are the ELAP and/or NELAP Certificate(s) of Approval issued to your environmental laboratory for the current permit year. The Certificate(s) supersede any previously issued and is(are) in effect through the expiration date listed above. Please carefully examine the Certificate(s) to insure that the categories, subcategories, analytes and methods for which your laboratory is approved are listed correctly, as well as verifying your laboratory's name, address, lead technical director and identification number.

Pursuant to regulation (Part 55-2 NYCRR), original certificates must be posted conspicuously in the laboratory and shall, upon request, be made available to any client of the laboratory. Certificates remain the property of the New York State Department of Health and must be surrendered promptly on demand.

Please note, pursuant to Section 55-2.5(a) NYCRR, any misrepresentation of the Fields of Accreditation (Matrix - Method - Analyte) for which your laboratory is approved may result in denial, suspension, or revocation of your certification. Any use of the ELAP or NELAP name, reference to the laboratory's approval status and/or using the NELAC/NELAP logo in any catalogs, advertising, business solicitations, proposals, quotations, laboratory analytical reports or other materials must include the laboratory's ELAP identification number, and must distinguish between proposed testing for which the laboratory is approved and the proposed testing for which the laboratory is not approved.

Please notify the ELAP office of any changes you feel need to be made to your Certificate(s). We may be reached via email to elap@health.state.ny.us or by calling (518) 485-5570.

Sincerely,

Joyce Reilly

Program Administrator
Environmental Laboratory
Approval Program

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
Antonia C. Novello, M.D., M.P.H., Dr.P.H.

Expires 12:01 AM April 01, 2007
Issued April 10, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DIVYAJIT MEHTA
CHEMTECH
284 SHEFFIELD STREET
MOUNTAINSIDE, NJ 07092

NY Lab Id No: 11376
EPA Lab Code:

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category ENVIRONMENTAL ANALYSES AIR AND EMISSIONS
All approved analytes are listed below:

Purgeable Aromatics	
1,2-Dichlorobenzene	EPA TO-15
1,4-Dichlorobenzene	EPA TO-15
Benzene	EPA TO-15
Chlorobenzene	EPA TO-15
Ethyl benzene	EPA TO-15
Toluene	EPA TO-15
Total Xylenes	EPA TO-15
Purgeable Halocarbons	
1,1,2,2-Tetrachloroethane	EPA TO-15
1,1-Dichloroethane	EPA TO-15
1,1-Dichloroethene	EPA TO-15
1,2-Dichloroethane	EPA TO-15
Carbon tetrachloride	EPA TO-15
Chloroform	EPA TO-15
Methylene chloride	EPA TO-15
Tetrachloroethene	EPA TO-15
Vinyl chloride	EPA TO-15
Volatile Chlorinated Organics	
Benzyl chloride	EPA TO-15
Epichlorohydrin	EPA TO-15

Serial No.: 29992

Property of the New York State Department of Health. Valid only at the address shown. Must be conspicuously posted. Valid certificates have a raised seal. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify laboratory's accreditation status.

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All approved analytes are listed below:

Acrylates	
Acrolein (Propenal)	EPA 8260B
Acrylonitrile	EPA 8260B
Amines	
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Chloroaniline	EPA 8270C
4-Nitroaniline	Method Not Specified
Carbazole	EPA 8270C
Benzidines	
Benzidine	EPA 8270C
Characteristic Testing	
Corrosivity	EPA 1110
	EPA 9040B
Ignitability	EPA 1010
	EPA 1030
Reactivity	SW-846 Ch7, Sec. 7.3
TCLP	EPA 1311
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 8081A
4,4'-DDE	EPA 8081A
4,4'-DDT	EPA 8081A
Chlorinated Hydrocarbon Pesticides	
Aldrin	EPA 8081A
alpha-BHC	EPA 8081A
alpha-Chlordane	Method Not Specified
beta-BHC	EPA 8081A
Chlordane Total	EPA 8081A
delta-BHC	EPA 8081A
Dieldrin	EPA 8081A
Endosulfan I	EPA 8081A
Endosulfan II	EPA 8081A
Endosulfan sulfate	EPA 8081A
Endrin	EPA 8081A
Endrin aldehyde	EPA 8081A
Endrin Ketone	EPA 8081A
gamma-Chlordane	Method Not Specified
Heptachlor	EPA 8081A
Heptachlor epoxide	EPA 8081A
Lindane	EPA 8081A
Methoxychlor	EPA 8081A
Toxaphene	EPA 8081A
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 8270C
2-Chloronaphthalene	EPA 8270C

Serial No.: 29991

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Chlorinated Hydrocarbons	
Hexachlorobenzene	EPA 8270C
Hexachlorobutadiene	EPA 8270C
Hexachlorocyclopentadiene	EPA 8270C
Hexachloroethane	EPA 8270C
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
Dicamba	EPA 8151A
Haloethers	
4-Bromophenylphenyl ether	EPA 8270C
4-Chlorophenylphenyl ether	EPA 8270C
Bis (2-chloroisopropyl) ether	EPA 8270C
Bis(2-chloroethoxy)methane	EPA 8270C
Bis(2-chloroethyl)ether	EPA 8270C
Metals I	
Barium, Total	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 6010B
	EPA 6020
Calcium, Total	EPA 6010B
Chromium, Total	EPA 6010B
Metals I	
Chromium, Total	EPA 6020
Copper, Total	EPA 6010B
	EPA 6020
Iron, Total	EPA 6010B
Lead, Total	EPA 3010A
	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 6010B
Manganese, Total	EPA 6010B
Nickel, Total	EPA 6010B
	EPA 6020
Potassium, Total	EPA 6010B
Silver, Total	EPA 6010B
	EPA 6020
Sodium, Total	EPA 6010B
Metals II	
Aluminum, Total	EPA 6010B
	EPA 6020
Antimony, Total	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 6010B
	EPA 6020

Serial No.: 29991

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All approved analytes are listed below:

Metals II	
Beryllium, Total	EPA 6010B
Chromium VI	EPA 7196A
Mercury, Total	EPA 7471A
Selenium, Total	EPA 6010B
	EPA 6020
Vanadium, Total	EPA 6010B
Zinc, Total	EPA 6010B
Metals III	
Cobalt, Total	EPA 6010B
Molybdenum, Total	EPA 6010B
Miscellaneous	
Cyanide, Total	EPA 9010B
	EPA 9012A
	EPA 9014
Hydrogen Ion (pH)	EPA 9040B
	EPA 9045C
Sulfide (as S)	EPA 9030B
	EPA 9034
Nitroaromatics and Isophorone	
2,4-Dinitrotoluene	EPA 8270C
2,6-Dinitrotoluene	EPA 8270C
Isophorone	EPA 8270C
Nitroaromatics and Isophorone	
Isophorone	OLM 4.2 BNA
Nitrobenzene	EPA 8270C
Nitrosoamines	
N-Nitrosodi-n-propylamine	EPA 8070A
N-Nitrosodiphenylamine	EPA 8270C
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 8270C
Diethyl phthalate	EPA 8270C
Dimethyl phthalate	EPA 8270C
Di-n-butyl phthalate	EPA 8270C
Di-n-octyl phthalate	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 8082
PCB-1221	EPA 8082
PCB-1232	EPA 8082
PCB-1242	EPA 8082
PCB-1248	EPA 8082
PCB-1254	EPA 8082
PCB-1260	EPA 8082

Serial No.: 29991

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
Antonia C. Novello, M.D., M.P.H., Dr.P.H.

Expires 12:01 AM April 01, 2007
Issued April 10, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DIVYAJIT MEHTA
CHEMTECH
284 SHEFFIELD STREET
MOUNTAINSIDE, NJ 07092

NY Lab Id No: 11376
EPA Lab Code:

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Polynuclear Aromatic Hydrocarbons	
Acenaphthene	EPA 8270C
Acenaphthylene	EPA 8270C
Anthracene	EPA 8270C
Benzo(a)anthracene	EPA 8270C
Benzo(a)pyrene	EPA 8270C
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 8270C
Benzo(k)fluoranthene	Method Not Specified
Chrysene	EPA 8270C
Dibenzo(a,h)anthracene	EPA 8270C
Fluoranthene	EPA 8270C
Fluorene	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 8270C
Naphthalene	EPA 8270C
Phenanthrene	EPA 8270C
Pyrene	EPA 8270C
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 8270C
2,4-Dichlorophenol	EPA 8270C
2,4-Dimethylphenol	EPA 8270C
2,4-Dinitrophenol	EPA 8270C

Priority Pollutant Phenols	
2-Chlorophenol	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C
Purgeable Aromatics	
1,2-Dichlorobenzene	EPA 8021B
	EPA 8260B
1,3-Dichlorobenzene	EPA 8021B
	EPA 8260B
1,4-Dichlorobenzene	EPA 8021B
	EPA 8260B
Benzene	EPA 8021B
	EPA 8260B
Chlorobenzene	EPA 8021B
	EPA 8260B
Ethyl benzene	EPA 8021B
	EPA 8260B

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Purgeable Aromatics	
Styrene	EPA 8260B
Toluene	EPA 8021B
	EPA 8260B
Total Xylenes	EPA 8021B
	EPA 8260B
Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA 8021B
	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 8021B
	EPA 8260B
1,1,2-Trichloroethane	EPA 8021B
	EPA 8260B
1,1-Dichloroethane	EPA 8021B
	EPA 8260B
1,1-Dichloroethene	EPA 8021B
	EPA 8260B
1,2-Dichloroethane	EPA 8021B
	EPA 8260B
1,2-Dichloropropane	EPA 8021B
	EPA 8260B
2-Chloroethylvinyl ether	EPA 8021B
	EPA 8260B

Purgeable Halocarbons	
Bromodichloromethane	EPA 8021B
	EPA 8260B
Bromoform	EPA 8021B
	EPA 8260B
Bromomethane	EPA 8021B
	EPA 8260B
Carbon tetrachloride	EPA 8021B
	EPA 8260B
Chloroethane	EPA 8021B
	EPA 8260B
Chloroform	EPA 8021B
	EPA 8260B
Chloromethane	EPA 8021B
	EPA 8260B
cis-1,3-Dichloropropene	EPA 8021B
	EPA 8260B
Dibromochloromethane	EPA 8021B
	EPA 8260B
Dichlorodifluoromethane	EPA 8021B
	EPA 8260B
Methylene chloride	EPA 8021B
	EPA 8260B
Tetrachloroethene	EPA 8021B

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Purgeable Halocarbons	
Tetrachloroethene	EPA 8260B
trans-1,3-Dichloropropene	EPA 8021B
	EPA 8260B
Trichloroethene	EPA 8021B
	EPA 8260B
Trichlorofluoromethane	EPA 8021B
	EPA 8260B
Vinyl chloride	EPA 8021B
	EPA 8260B
Purgeable Organics	
2-Butanone (Methylethyl ketone)	EPA 8260B
2-Hexanone	EPA 8260B
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Carbon Disulfide	EPA 8260B
Vinyl acetate	EPA 8260B
Semi-Volatile Organics	
2-Methylnaphthalene	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C

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Acrylates	
Acrolein (Propenal)	EPA 8260B
Acrylonitrile	EPA 8260B
Amines	
2-Nitroaniline	EPA 8270C
3-Nitroaniline	EPA 8270C
4-Nitroaniline	EPA 8270C
Aniline	EPA 8270C
Carbazole	Method Not Specified
Pyridine	EPA 8270C
Benzidines	
3,3' -Dichlorobenzidine	EPA 625
	EPA 8270C
Benzidine	EPA 625
	EPA 8270C
Chlorinated Hydrocarbon Pesticides	
4,4'-DDD	EPA 608
	EPA 8081A
4,4'-DDE	EPA 608
	EPA 8081A
4,4'-DDT	EPA 608
	EPA 8081A
Aldrin	EPA 608

Chlorinated Hydrocarbon Pesticides	
Aldrin	EPA 8081A
alpha-BHC	EPA 608
	EPA 8081A
alpha-Chlordane	Method Not Specified
beta-BHC	EPA 608
	EPA 8081A
Chlordane Total	EPA 608
	EPA 8081A
delta-BHC	EPA 608
	EPA 8081A
Dieldrin	EPA 608
	EPA 8081A
Endosulfan I	EPA 608
	EPA 8081A
Endosulfan II	EPA 608
	EPA 8081A
Endosulfan sulfate	EPA 608
	EPA 8081A
Endrin	EPA 608
	EPA 8081A
Endrin aldehyde	EPA 608
	EPA 8081A
gamma-Chlordane	Method Not Specified

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Chlorinated Hydrocarbon Pesticides	
Heptachlor	EPA 608
	EPA 8081A
Heptachlor epoxide	EPA 608
	EPA 8081A
Lindane	EPA 608
	EPA 8081A
Methoxychlor	EPA 608
	EPA 8081A
Toxaphene	EPA 608
	EPA 8081A
Chlorinated Hydrocarbons	
1,2,4-Trichlorobenzene	EPA 625
	EPA 8270C
2-Chloronaphthalene	EPA 625
	EPA 8270C
Hexachlorobenzene	EPA 625
	EPA 8270C
Hexachlorobutadiene	EPA 625
	EPA 8270C
Hexachlorocyclopentadiene	EPA 625
	EPA 8270C
Hexachloroethane	EPA 625

Chlorinated Hydrocarbons	
Hexachloroethane	EPA 8270C
Chlorophenoxy Acid Pesticides	
2,4,5-T	EPA 8151A
2,4,5-TP (Silvex)	EPA 8151A
2,4-D	EPA 8151A
Dicamba	EPA 8151A
Demand	
Biochemical Oxygen Demand	EPA 405.1
	SM 18-20 5210B
Chemical Oxygen Demand	EPA 410.1
	EPA 410.4
	SM 18-20 5220D
Haloethers	
4-Bromophenylphenyl ether	EPA 625
	EPA 8270C
4-Chlorophenylphenyl ether	EPA 625
	EPA 8270C
Bis (2-chloroisopropyl) ether	EPA 625
	EPA 8270C
Bis(2-chloroethoxy)methane	EPA 625
	EPA 8270C
Bis(2-chloroethyl)ether	EPA 625

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Haloethers	
Bis(2-chloroethyl)ether	EPA 8270C
Mineral	
Alkalinity	SM 18-20 2320B
Chloride	EPA 300.0
	EPA 325.3
	SM 18-20 4500-Cl C
Fluoride, Total	EPA 300.0
	EPA 340.2
	SM 18-20 4500-F C
Hardness, Total	EPA 200.7
Sulfate (as SO4)	EPA 300.0
	EPA 375.4
Nitroaromatics and Isophorone	
2,4-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330
2,6-Dinitrotoluene	EPA 625
	EPA 8270C
	EPA 8330
Isophorone	EPA 625
	EPA 8270C
Nitrobenzene	EPA 625
Nitroaromatics and Isophorone	
Nitrobenzene	EPA 8270C
	EPA 8330
Nitrosoamines	
N-Nitrosodimethylamine	EPA 625
	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 625
	EPA 8270C
N-Nitrosodiphenylamine	EPA 625
	EPA 8270C
Nutrient	
Ammonia (as N)	EPA 350.1
	EPA 350.2
Kjeldahl Nitrogen, Total	EPA 351.1
	EPA 351.3
	SM 18 4500-NH3 C
Nitrate (as N)	EPA 300.0
	EPA 353.1
	EPA 353.2
	SM 18-20 4500-NO3 E
	SM 18-20 4500-NO3 F
Nitrite (as N)	EPA 300.0
	EPA 354.1

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Nutrient	
Nitrite (as N)	SM 18-20 4500-NO2 B
Orthophosphate (as P)	EPA 300.0
	EPA 365.2
Phosphorus, Total	EPA 365.2
Phthalate Esters	
Benzyl butyl phthalate	EPA 625
	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270C
Diethyl phthalate	EPA 625
	EPA 8270C
Dimethyl phthalate	EPA 625
	EPA 8270C
Di-n-butyl phthalate	EPA 625
	EPA 8270C
Di-n-octyl phthalate	EPA 625
	EPA 8270C
Polychlorinated Biphenyls	
PCB-1016	EPA 608
	EPA 8082
PCB-1221	EPA 608
	EPA 8082
Polychlorinated Biphenyls	
PCB-1232	EPA 608
	EPA 8082
PCB-1242	EPA 608
	EPA 8082
PCB-1248	EPA 608
	EPA 8082
PCB-1254	EPA 608
	EPA 8082
PCB-1260	EPA 608
	EPA 8082
Polynuclear Aromatics	
Acenaphthene	EPA 625
	EPA 8270C
	EPA 8310
Acenaphthylene	EPA 625
	EPA 8270C
	EPA 8310
Anthracene	EPA 625
	EPA 8270C
	EPA 8310
Benzo(a)anthracene	EPA 625
	EPA 8270C

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Polynuclear Aromatics	
Benzo(a)anthracene	EPA 8310
Benzo(a)pyrene	EPA 625
	EPA 8270C
	EPA 8310
Benzo(b)fluoranthene	EPA 625
	EPA 8270C
	EPA 8310
Benzo(ghi)perylene	EPA 625
	EPA 8270C
	EPA 8310
Benzo(k)fluoranthene	EPA 625
	EPA 8270C
	EPA 8310
Chrysene	EPA 625
	EPA 8270C
	EPA 8310
Dibenzo(a,h)anthracene	EPA 625
	EPA 8270C
	EPA 8310
Fluoranthene	EPA 625
	EPA 8270C
	EPA 8310
Fluorene	EPA 625

Polynuclear Aromatics	
Fluorene	EPA 8270C
	EPA 8310
Indeno(1,2,3-cd)pyrene	EPA 625
	EPA 8270C
	EPA 8310
Naphthalene	EPA 625
	EPA 8270C
	EPA 8310
Phenanthrene	EPA 625
	EPA 8270C
	EPA 8310
Pyrene	EPA 625
	EPA 8270C
	EPA 8310
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 625
	EPA 8270C
2,4,6-Trichlorophenol	EPA 625
	EPA 8270C
2,4-Dichlorophenol	EPA 625
	EPA 8270C
2,4-Dimethylphenol	EPA 625

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All approved analytes are listed below:

Priority Pollutant Phenols		**Purgeable Aromatics**	
2,4-Dimethylphenol	EPA 8270C	1,2-Dichlorobenzene	EPA 602
2,4-Dinitrophenol	EPA 625		EPA 624
	EPA 8270C		EPA 625
2-Chlorophenol	EPA 625		EPA 8021B
	EPA 8270C		EPA 8260B
2-Methyl-4,6-dinitrophenol	EPA 625		EPA 8270C
	EPA 8270C	1,3-Dichlorobenzene	EPA 601
2-Methylphenol	EPA 8270C		EPA 602
2-Nitrophenol	EPA 625		EPA 624
	EPA 8270C		EPA 625
4-Chloro-3-methylphenol	EPA 625		EPA 8021B
	EPA 8270C		EPA 8260B
4-Methylphenol	EPA 8270C	1,4-Dichlorobenzene	EPA 601
4-Nitrophenol	EPA 625		EPA 602
	EPA 8270C		EPA 624
Cresols, Total	EPA 8270C		EPA 625
Pentachlorophenol	EPA 625		EPA 8021B
	EPA 8270C		EPA 8260B
Phenol	EPA 625	Benzene	EPA 602
	EPA 8270C		EPA 624
Purgeable Aromatics			EPA 8021B
1,2-Dichlorobenzene	EPA 601		EPA 8260B
		Chlorobenzene	EPA 624

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Purgeable Aromatics	
Chlorobenzene	EPA 8021B
	EPA 8260B
Ethyl benzene	EPA 602
	EPA 624
	EPA 8021B
	EPA 8260B
Styrene	Method Not Specified
Toluene	EPA 624
	EPA 8021B
	EPA 8260B
Total Xylenes	EPA 624
	EPA 8021B
	EPA 8260B
Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B

Purgeable Halocarbons	
1,1,2-Trichloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
1,1-Dichloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
1,1-Dichloroethene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
1,2-Dichloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
1,2-Dichloropropane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
2-Chloroethylvinyl ether	EPA 601
	EPA 624
	EPA 8260B

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Purgeable Halocarbons	
2-Chloroethylvinyl ether	SM 18-19 6230B
Bromodichloromethane	EPA 624
	EPA 8021B
	EPA 8260B
Bromoform	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Bromomethane	EPA 601
	EPA 8021B
	EPA 8260B
Carbon tetrachloride	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Chloroethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Chloroform	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B

Purgeable Halocarbons	
Chloromethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
cis-1,3-Dichloropropene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Dibromochloromethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Dichlorodifluoromethane	EPA 601
	EPA 624
	EPA 8260B
Methylene chloride	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Tetrachloroethene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B

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Purgeable Halocarbons	
trans-1,2-Dichloroethene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
trans-1,3-Dichloropropene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Trichloroethene	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Trichlorofluoromethane	EPA 601
	EPA 624
	EPA 8021B
	EPA 8260B
Vinyl chloride	EPA 601
	EPA 8021B
Purgeable Organics	
2-Butanone (Methylethyl ketone)	EPA 8015 B
	EPA 8260B
2-Hexanone	EPA 8260B
Purgeable Organics	
4-Methyl-2-Pentanone	EPA 8260B
Acetone	EPA 8260B
Carbon Disulfide	EPA 8260B
Vinyl acetate	EPA 8260B
Residue	
Solids, Total	EPA 160.3
	SM 18-20 2540B
Solids, Total Dissolved	EPA 160.1
	SM 18-20 2540C
Solids, Total Suspended	EPA 160.2
	SM 18-20 2540D
Semi-Volatile Organics	
2-Methylnaphthalene	EPA 8270C
Benzoic Acid	EPA 8270C
Benzyl alcohol	EPA 8270C
Dibenzofuran	EPA 8270C
Wastewater Bacteriology	
Coliform, fecal	SM 18-20 9222D
Coliform, Total	SM 18-20 9222B
Standard Plate Count	SM 18 9215B

Serial No.: 29990

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
Antonia C. Novello, M.D., M.P.H., Dr.P.H.

Expires 12:01 AM April 01, 2007
Issued April 10, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DIVYAJIT MEHTA
CHEMTECH
284 SHEFFIELD STREET
MOUNTAINSIDE, NJ 07092

NY Lab Id No: 11376
EPA Lab Code:

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Wastewater Metals I		**Wastewater Metals I**	
Barium, Total	EPA 200.7	Iron, Total	EPA 200.7
	EPA 200.8		EPA 3010A
	EPA 6010B		EPA 6010B
	SM 18-20 3120B		SM 18-20 3120B
Cadmium, Total	EPA 200.7	Lead, Total	EPA 200.7
	EPA 200.8		EPA 200.8
	EPA 3010A		EPA 3010A
	EPA 6010B		EPA 6010B
	SM 18-19 3113B		SM 18-20 3120B
	SM 18-20 3120B	Magnesium, Total	EPA 200.7
Calcium, Total	EPA 200.7		EPA 3010A
	EPA 3010A		EPA 6010B
	EPA 6010B	Manganese, Total	EPA 200.7
Chromium, Total	EPA 200.7		EPA 200.8
	EPA 200.8		EPA 3010A
	EPA 3010A		EPA 6010B
	EPA 6010B		SM 18-20 3120B
	SM 18-20 3120B	Nickel, Total	EPA 200.7
Copper, Total	EPA 200.7		EPA 200.8
	EPA 200.8		EPA 3010A
	EPA 3010A		EPA 6010B
	EPA 6010B		SM 18-20 3120B
	SM 18-20 3120B	Potassium, Total	EPA 200.7

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Wastewater Metals I	
Potassium, Total	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Silver, Total	EPA 200.7
	EPA 200.8
	EPA 3005A
	EPA 6010B
	SM 18-20 3120B
Sodium, Total	EPA 200.7
	EPA 3005A
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Wastewater Metals II	
Aluminum, Total	EPA 200.7
	EPA 200.8
	EPA 3005A
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Antimony, Total	EPA 200.7
	EPA 200.8

Wastewater Metals II	
Antimony, Total	EPA 3005A
	EPA 6010B
	SM 18-20 3120B
Arsenic, Total	EPA 200.7
	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Beryllium, Total	EPA 200.7
	EPA 200.8
	EPA 210.1
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Chromium VI	EPA 7196A
Mercury, Total	EPA 245.1
	EPA 7470A
	SM 18-19 3112B
Selenium, Total	EPA 200.7
	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B

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Wastewater Metals II	
Vanadium, Total	EPA 200.7
	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Zinc, Total	EPA 200.7
	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Wastewater Metals III	
Cobalt, Total	EPA 200.7
	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Molybdenum, Total	EPA 200.7
	EPA 200.8
	EPA 3005A
	EPA 6010B
	SM 18-20 3120B
Thallium, Total	EPA 200.7

Wastewater Metals III	
Thallium, Total	EPA 200.8
	EPA 3010A
	EPA 6010B
	SM 18-20 3120B
Wastewater Miscellaneous	
Boron, Total	EPA 200.7
	EPA 6010B
Bromide	EPA 300.0
Color	EPA 110.2
Cyanide, Total	EPA 335.1
	EPA 335.2
	EPA 9010B
	EPA 9012A
	SM 18-20 4500-CN D
	SM 18-20 4500-CN E
Hydrogen Ion (pH)	EPA 150.1
	EPA 9040B
	SM 18-20 4500-H B
Oil & Grease Total Recoverable	EPA 1664A
	EPA 413.1
Organic Carbon, Total	EPA 415.1
Phenols	EPA 420.1

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Wastewater Miscellaneous

Silica, Dissolved	EPA 200.7
Specific Conductance	EPA 120.1
	SM 18-20 2510B
Sulfide (as S)	EPA 376.1
	EPA 9030B
	EPA 9034
Surfactant (MBAS)	EPA 425.1
	SM 18-20 5540C
Temperature	SM 18-20 2550B

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All approved analytes are listed below:

Drinking Water Metals I	
Arsenic, Total	EPA 200.7
Barium, Total	EPA 200.7
Cadmium, Total	EPA 200.7
Chromium, Total	EPA 200.7
Copper, Total	EPA 200.7
Iron, Total	EPA 200.7
Lead, Total	EPA 200.8
Manganese, Total	EPA 200.7
Mercury, Total	EPA 245.1
Selenium, Total	EPA 200.8
Silver, Total	EPA 200.7
Zinc, Total	EPA 200.7
Drinking Water Metals II	
Antimony, Total	EPA 200.9
Beryllium, Total	EPA 200.7
Nickel, Total	EPA 200.7
Drinking Water Non-Metals	
Alkalinity	SM 18-20 2320B
Calcium Hardness	EPA 200.7
Chloride	EPA 300.0
Color	SM 18-20 2120B
Hydrogen Ion (pH)	SM 18-20 4500-H B

Drinking Water Non-Metals	
Solids, Total Dissolved	SM 18-20 2540C
Sulfate (as SO4)	EPA 300.0
Volatile Aromatics	
1,2,3-Trichlorobenzene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2,4-Trimethylbenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,3,5-Trimethylbenzene	EPA 524.2
1,3-Dichlorobenzene	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
2-Chlorotoluene	EPA 524.2
4-Chlorotoluene	EPA 524.2
Benzene	EPA 524.2
Bromobenzene	EPA 524.2
Chlorobenzene	EPA 524.2
Ethyl benzene	EPA 524.2
Hexachlorobutadiene	EPA 524.2
Isopropylbenzene	EPA 524.2
n-Butylbenzene	EPA 524.2
n-Propylbenzene	EPA 524.2
p-Isopropyltoluene (P-Cymene)	EPA 524.2
sec-Butylbenzene	EPA 524.2

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All approved analytes are listed below:

Volatile Aromatics	
Styrene	EPA 524.2
tert-Butylbenzene	EPA 524.2
Toluene	EPA 524.2
Total Xylenes	EPA 524.2
Volatile Halocarbons	
1,1,1,2-Tetrachloroethane	EPA 524.2
1,1,1-Trichloroethane	EPA 524.2
1,1,2,2-Tetrachloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,1-Dichloropropene	EPA 524.2
1,2,3-Trichloropropane	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2
1,3-Dichloropropane	EPA 524.2
2,2-Dichloropropane	EPA 524.2
Bromochloromethane	EPA 524.2
Bromomethane	EPA 524.2
Carbon tetrachloride	EPA 524.2
Chloroethane	EPA 524.2
Chloromethane	EPA 524.2

Volatile Halocarbons	
cis-1,2-Dichloroethene	EPA 524.2
cis-1,3-Dichloropropene	EPA 524.2
Dibromomethane	EPA 524.2
Dichlorodifluoromethane	EPA 524.2
Methylene chloride	EPA 524.2
Tetrachloroethene	EPA 524.2
trans-1,2-Dichloroethene	EPA 524.2
trans-1,3-Dichloropropene	EPA 524.2
Trichloroethene	EPA 524.2
Trichlorofluoromethane	EPA 524.2
Vinyl chloride	EPA 524.2

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APPENDIX B

Data Validator Qualifications and Experience

Megan A. Drosky

Environmental Scientist/Data Validator

Ms. Drosky joined C.T. Male in 2005. Her duties include the data validation and preparation of Data Usability Summary Reports (DUSR) for New York State Department of Environmental Conservation (NYSDEC) Brownfields Sites and NYS Superfund Sites, and validation of data for Inactive Hazardous Waste Sites, Landfill Closure and Post Closure Monitoring, and other groundwater monitoring sites.

Data Validation Experience

BP, North Carolina. Performed validation of analytical data of various methods (e.g., volatile and semivolatile organics, metals, natural attenuation parameters, petroleum hydrocarbons, etc.) and matrices (soil, groundwater, waste, air) based on United States Environmental Protection Agency (USEPA)Contract Laboratory Program (CLP) in conformance with North Carolina Department of Environment and Natural Resources (NCDENR) Underground Storage Tank (UST) and Groundwater Protection Guidelines for more than 50 commercial and terminal sites in North Carolina.

NCDOT, North Carolina. Performed validation of analytical data of various methods (e.g., volatile and semivolatile organics, metals, natural attenuation parameters, petroleum hydrocarbons, etc.) and matrices (soil, groundwater, waste, air) based on USEPA CLP in conformance with NCDENR UST and Groundwater Protection Guidelines for five sites in North Carolina.

International Paper, Wilmington, North Carolina. Performed validation of analytical data of various methods (e.g., volatile and semivolatile organics, natural attenuation parameters, etc.) for groundwater based on USEPA CLP.

Plantation Pipeline, Virginia and North Carolina. Performed validation of analytical data of various methods (e.g., volatile and semivolatile organics, natural attenuation parameters, etc.) for groundwater based on USEPA CLP in conformance with NCDENR Groundwater Protection Guidelines and Virginia Department of Environmental Quality Petroleum Program Guidelines at four sites in North Carolina and one site in Virginia.

Kinder Morgan Terminal, Selma, North Carolina. Performed validation of analytical data of various methods (e.g., volatile and semivolatile organics, natural attenuation parameters, etc.) for groundwater based on USEPA CLP in conformance with NCDENR Groundwater Protection Guidelines.

Circuitron Superfund Site, East Farmingdale, New York. Performed data validation on the monthly process and quarterly monitoring well samples collected from the groundwater treatment system following USEPA CLP guidelines, and prepared a validation report for each data package.

FAA Technical Center, O&M Project, Atlantic City, New Jersey. Performed data validation on the monthly process and quarterly monitoring well samples collected from the groundwater treatment system following USEPA CLP guidelines, and prepared a validation report for each data package.

Pope Air Force Base, Fayetteville, North Carolina. Performed data validation on various site-specific projects based on Air Force Center for Environmental Excellence (AFCEE) and USEPA National Functional Guidelines for analytical data of various methods (e.g., volatile and semivolatile organics, metals, pesticides, and PCBs) and matrices (groundwater, soil, sediment, and surface water).

Franklin Cleaners, Hempstead, New York. Performed data validation on the monthly process and quarterly monitoring well samples collected from the groundwater treatment system following USEPA Region 2 Data Validation Guidelines and NYSDEC Appendix 2B of Draft DER-10 Guidelines, and prepared a DUSR for each data package.

Arthur Kill Correctional Facility Firing Range, Staten Island, New York. Performed data validation on Remedial Investigation lead soils samples following USEPA Region 2 Data Validation Guidelines and NYSDEC Appendix 2B of Draft DER-10 Guidelines, and prepared a DUSR for each data package.

Durkee Street – Parking Lot Site, Operable Units #1 and #2 Sites, Plattsburgh, New York. Performed data validation on Environmental Restoration Program Remedial Investigation soil vapor and soil samples following USEPA Region 2 Data Validation Guidelines and NYSDEC Appendix 2B of Draft DER-10 Guidelines, and prepared a DUSR for each data package.

Former CP Rail Yard, Plattsburgh, New York. Performed data validation on Brownfield Cleanup Program Remedial Investigation soil samples following USEPA Region 2 Data Validation Guidelines and NYSDEC Appendix 2B of Draft DER-10 Guidelines, and prepared a DUSR for each data package.

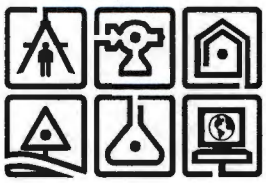
South Troy Industrial Park, Troy, New York. Performed data validation on Environmental Restoration Program Remedial Investigation soil samples following USEPA Region 2 Data Validation Guidelines and NYSDEC Appendix 2B of Draft DER-10 Guidelines, and prepared a DUSR for each data package.

Professional Background

- Environmental Scientist/Data Validator, C. T. Male Associates, Latham, New York, September 2005 - Present
- Environmental Scientist, URS Corporation, Morrisville, North Carolina, November 2003 – September 2005.
- Laboratory Technician, Wearcheck USA, Cary, North Carolina, October 2002 – November 2003.
- B.S. in Environmental Science, Long Island University at Southampton College, Southampton, New York, 2002.

Certifications

- OSHA 40-Hour Health and Safety Training Course, 2004



- 8-Hour Health and Safety Refresher Training, 2005
- 3 years prior work experience

APPENDIX C

Guidance for the Development of Data Usability Summary Reports

APPENDIX 2B

Guidance for the Development of Data Usability Summary Reports

Background:

The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data without the costly and time consuming process of third party data validation. The primary objective of a DUSR is to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use.

The DUSR and the data deliverables package will be reviewed by the DER Quality Assurance Unit. If data validation is found to be necessary (e.g. pending litigation) this can be carried out at a later date on the same data package used for the development of the DUSR.

Personnel Requirements:

The Environmental Scientist preparing the DUSR must hold a Bachelors Degree in a relevant natural or physical science or field of engineering and must submit a resume to the Division's Quality Assurance Unit documenting experience in environmental sampling, analysis and data review.

Preparation of a DUSR:

The DUSR is developed by reviewing and evaluating the analytical data package. During the course of this review the following questions must be asked and answered:

1. Is the data package complete as defined under the requirements forthe NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used?

Evaluation of NYSDEC ASP Matrix Spike Blank (MSB) data - If the MSB recovery is less that the ASP criteria, the positive results should be qualified as J, estimated biased low. If the MSB recovery is less than the ASP criteria, but greater than 10%, the nondetects should be qualified J, biased low. If the MSB recovery is less than 10%, the nondetect data must be rejected.

Any Quality Control exceedances must be numerically specified in the DUSR and the corresponding QC summary sheet from the data package should be attached to the DUSR. All data that would be rejected by the EPA Region 2 Data Validation Guidelines must also be rejected in the DUSR.

Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters. Data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data is discussed. The DUSR shall also include recommendations on resampling/reanalysis. All data qualifications must be documented following the NYSDEC ASP '95 Rev. guidelines.

APPENDIX D

SITE SPECIFIC HEALTH AND SAFETY PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

SITE SPECIFIC HEALTH AND SAFETY PLAN
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SITE SPECIFIC HEALTH AND SAFETY PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

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1.0 GENERAL

1.1 Overview

This Health and Safety Plan (HASP) has been prepared for use during implementation of a site investigation of the proposed Schuyler Heights Fire Department, 849 First Street ("the site"), located in the Town of Colonie, Albany County, New York. This HASP has been developed as an integral part of the Site Investigation SI/RAR Work Plan as prepared by C.T. Male Associates, P.C. The site investigation is being performed as part of the NYSDEC 1996 Clean Water/Clean Air Bond Act, Environmental Restoration Projects (Brownfield Program).

A designated Health and Safety Officer (HSO) will be responsible for implementing this HASP during the completion of the field work. All persons or parties who enter the work area (support, decontamination, exclusion zone) must review, sign and comply with this HASP. A list of individuals authorized to enter the exclusion zone at the site is presented in Section 13.0 of this HASP. A copy of this HASP will be maintained at the work area throughout the duration of the project. A complete description of the site investigation work scope is presented in the Site Investigation/Remediation Work Plan. The general scope of work is listed below:

Site Investigation:

- Site reconnaissance;
- Site wide subsurface/hydrogeologic evaluation; and
- Surface soil sampling and analysis

1.2 Contact Names & Numbers

For this project, the following NYSDEC, Schuyler Heights Fire District, NYSDOH, C.T. Male, and Emergency Response names and telephone numbers are presented below as site contacts.

NYSDEC CONTACTS:

PROJECT MANAGER:	Ian Beilby, P.E. 625 Broadway, 12th Floor Albany, NY 12233	(518) 402-9818

SCHUYLER HEIGHTS FIRE DISTRICT:

CHAIRMAN OF THE BOARD:	Mark DePasquale Chairman of the Board of Fire Commissioners 900 First Street, Watervliet, NY 12189	Cell Phone: (518) 857-0140

NYSDOH CONTACT:

TECHNICAL LEAD:	Bruce Donovan NYSDOH Environmental Health Program Capital District Regional Office Frear Building, One Fulton Street Troy, NY 12180	

CONSULTANT CONTACTS:

CONSULTING ENGINEER:	C.T. Male Associates, P.C. 50 Century Hill Drive Latham, NY 12110	(518) 786-7400
	David Roecker, Project Principal	(518) 786-7491
		Cell Phone: (518) 265-2117
	Kirk Moline, Project Manager	(518) 786-7502
		Cell Phone: (518) 265-1708
	Jeffrey Marx, Project Engineer	(518) 786-7548
		Beeper: (518) 437-2459
	Nathan Freeman, Health & Safety Officer	(518) 786-7586
		Cell Phone: (518) 369-8921

EMERGENCY PHONE NUMBERS:

PERSONAL INJURY OR EMERGENCY:	Albany Memorial Hospital 600 Northern Blvd. Albany, NY 12204	(518) 471-3280
FIRE DEPARTMENT:	Emergency Non-Emergency Schuyler Heights Fire District 900 1st Street Watervliet, NY 12189	911 (518) 271-7851
POLICE:	Emergency Non-emergency Watervliet Police Department 2 15th Street Watervliet, NY 12189	911 (518) 270-3833

HUDSON VALLEY REGIONAL POISON CONTROL CENTER:	Phelps Memorial Hospital Center 701 North Broadway Sleepy Hollow, NY 10591	(800) 336-6997
NATIONAL RESPONSE CENTER:	c/o United States Coast Guard (G-OPF) 2100 2nd Street, Southwest - Room 2611 Washington, DC 20593-0001	(800) 424-8802
NYSDEC SPILL HOTLINE:		(800) 457-7362

2.0 HEALTH AND SAFETY PERSONNEL

The Health and Safety Officer (HSO) will be responsible for implementation of the HASP and the delegation of health and safety duties. The HSO will coordinate the resolution of safety issues that arise during site work. When field operations require Level D protection, it will not be necessary for the HSO to be present on-site at all times. When the HSO is not present on-site, a designee will be authorized to perform the duties of the HSO. The designee will be responsible for implementation of the HASP.

The HSO or designee has stop work authorization which the HSO or designee will execute upon the HSO or designee's determination of an eminent safety hazard, emergency situation or other potentially dangerous situations (e.g. weather conditions), when this action is deemed appropriate. Authorization to resume work will be issued by the HSO.

3.0 SITE LOCATION AND DESCRIPTION

The Site is located in the Town of Colonie, Albany County, New York as depicted in Figure 1, Site Location Map. The Site consists of an irregular-shaped parcel, approximately 7.52 acres in size, located along the north side of First Street, west of 8th Avenue. The Site is currently undeveloped vacant land. Access to the Site is from both First Street and 8th Avenue.

4.0 POTENTIAL SITE CONTAMINANTS

Historical information for the subject site indicates the property formerly was used as a loading and unloading area for the D & H Railroad. Prior to 2001 the site was occupied by Albany Alloy & Steel and was utilized as a scrap metal yard. More recently the property was used as a scrap metal yard by Metro Metal Recycling LLC.

The existence of former railroad and scrap metal operations on the Site suggests the potential presence of petroleum-related products, such that volatile organic and semi-volatile organic compounds are potential contaminants of concern. Results of a 2002 investigation show low levels of semi-volatile organic compounds, some exceeding NYSDEC Standards and Guidance Values, in soils on the site. Both former uses of the site also pose the possible presence of polychlorinated biphenyls (PCB) and metals contamination on the site.

5.0 HAZARD ASSESSMENT

5.1 General

The hazard assessment, use of specific protective equipment, and monitoring associated with each field work task of the investigation and remedial work to be conducted at the subject site are presented in following subsections.

For this project, C.T. Male will be subcontracting portions of the site investigation and/or remedial activities. Each subcontractor will be responsible for developing and implementing a site-specific health and safety plan for their activities, for protection of their employees, and use of personal protective equipment. The subcontractor will also be responsible for developing and following their own Respiratory Protection Program, as applicable.

5.2 Site Survey

The site survey will be performed by a two-man crew and their work will not be intrusive. Therefore, exposure to potential site contaminants is considered remote. The potential hazards to the survey crew will include slip and fall hazards from potentially uneven terrain, cuts from improper use of vegetation cutting tools, and the possibility of skin and eye damage from walking through brush. To protect against these potential hazards, any personnel completing this work should wear, at a minimum, steel-toe boots, safety glasses, leather gloves and full length pants.

5.3 Subsurface Work

Exploratory test pits and trenches, as well as soil test borings (including the installation of monitoring wells) are planned to be advanced across the Site. The potential hazards to personnel during this work are dermal contact and low potential for vapor inhalation of potential site contaminants. Level D protection should be sufficient to protect against dermal contact during excavation of and/or handling of the subsurface soils and groundwater. If organic vapors are present at the action levels described in Section 5.5, on the basis of organic vapor monitoring of the area during the work, it may be necessary to upgrade to Level C respiratory protection.

5.4 Fish and Wildlife Impact Analysis (FWIA)

The FWIA involves walking the property and assessing the current vegetative and drainage features. The potential hazards are slip and fall hazards from poor terrain and soil piles and the possibility of skin and eye damage from walking through brush. To protect against these potential hazards, personnel completing this work should wear Level D protection and, at a minimum, safety glasses, leather gloves, steel-toe boots and full length pants.

5.5 Air Monitoring

Semi-volatile organic compounds have been identified on the Site during a past environmental investigation. These compounds have the potential to be released to the environment when disturbed. During the completion of test borings, the ambient air in the work area will be monitored with a photoionization detection meter (total volatile compounds - MiniRAE 2000), calibrated to an isobutylene standard, prior to the start of work and periodically as conditions warrant. If a concentration of 10 ppm (sustained for 5 minutes) of total volatile compounds is detected within the work area on the instrument, work will cease immediately and the workers shall shut down equipment and leave the area immediately. The level of personal protective equipment (PPE) will be evaluated prior to continuing work. If a PPE upgrade is required, Level C will include: half face air purifying respirator equipped with combination organic vapor and particulate cartridges for 10-15 ppm exposure levels and full-face air purifying respirator for greater than 15 ppm to less than 50 ppm exposure levels, prior to continuing work. If a concentration greater than 50 ppm, work will cease immediately and the situation will be evaluated prior to continuation of work. Table 1 summarizes the action levels relative to the required respiratory protection.

Table 1 C.T. Male Action Levels & Required Respiratory Protection		
Action Level	**Level of PPE**	**Type of Respiratory Protection**
0-10 parts per million	Level D	No respiratory protection
10-15 parts per million	Level C	Negative pressure half-face respirator
15-50 parts per million	Level C	Positive pressure full-face respirator
Greater than 50	Cease Work	Evaluate work procedures

-Facial hair is not permitted while wearing most respirators.

-Workers required to wear a respirator must have a minimum of OSHA 40 Hour training with current medical monitoring and fit test documentation.

5.7 Community Air Monitoring Plan

A site specific Community Air Monitoring Plan (CAMP), will be followed for the project on the basis of the New York State Department of Health Generic Community Air Monitoring Plan dated June 2000.

5.8 Hazard Identification and Control

The following table presents generalized hazards potentially involved with the tasks to be completed on this project. Table 2 identifies general procedures to follow to prevent or reduce accident, injury or illness. Any worker on-site who identifies a potential hazard must report the condition to the HSO or designee, and initiate control of the hazardous condition.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Vehicular Traffic	1. Wear safety vest when vehicular hazards exist. 2. Use cones, flags, barricades, and caution tape to define work area. 3. Use vehicle to block work area. 4. Contact police for high traffic situations.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Slip, Trip, and Fall Protection	1. Assess work area to determine if there is a potential for falling. 2. Make sure work area is neat and tools are staged in one general area. 3. Wear steel-toe boots with adequate tread and always watch where the individual is walking. Carry flashlight when walking in poorly lighted areas.
Inclement Weather	1. Stop outdoor work during electrical storms and other extreme weather conditions such as extreme heat or cold temperatures. 2. Take cover indoors or in vehicle. 3. Listen to local forecasts for warnings about specific weather hazards such as tornadoes, hurricanes, and flash floods.
Utility Lines Contact	1. Contact UFPO to have utility lines marked prior to any underground excavation, trenching or drilling. UFPO must be contact at least 48 hours prior to work. 2. Refer to site drawings for utility locations. 3. Manually dig 3 to 5 feet below grade and 5 feet on each side of utility marked to avoid breaking utility lines.
Noise	1. Wear hearing protection when equipment such as a drill rig, jackhammer, or other heavy equipment is operating on-site. 2. Wear hearing protection whenever you need to raise your voice above normal conversational speech due to a loud noise source; this much noise indicates the need for protection. 3. Hearing protection is required when measured sound exceeds 85 decibels (dB) where employees stand or conduct work.
Electrical Shock	1. Maintain appropriate distance between heavy equipment and overhead utilities; 20 foot minimum clearance from power lines; and 10 foot minimum clearance from shielded power lines. 2. Contact local underground utility locating service prior to penetrating the ground surface.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Physical Injury	1. Wear hard hats and safety glasses at all times when on-site. 2. Maintain visual contact with equipment operators and wear orange safety vest when heavy equipment is operating on-site. 3. Avoid loose clothing when working around rotary equipment. 4. Keep hands and feet away from drilling augers and excavation equipment tracks/tires. 5. Test emergency shut-off switches on drill rigs and excavation equipment regularly. 6. Check clothing and body for the presence of ticks.
Back Injury	1. Use a mechanical lifting device or a lifting aid where appropriate. 2. Make sure the route is free of obstructions. 3. Bend at the knees and use leg muscles when lifting. 4. Use the buddy system if lifting heavy or awkward objects. 5. Do not twist or jerk your body when lifting.
Heat Stress	1. Increase water intake while working. 2. Avoid excessive alcohol intake the night before working in heat stress situations. 3. Increase number of rest breaks, as necessary and rest in a shaded area. 4. Watch for signs and symptoms of heat exhaustion and fatigue. 5. Rest in cool, dry areas. 6. In the event of heat stress or heat stroke, bring the victim to a cool environment and call 911.
Fire Control	1. Smoke only in designated areas. 2. Keep flammable liquids in closed containers. 3. Isolate flammable and combustible materials from ignition sources. 4. Keep fire extinguisher nearby and use only if deemed safe.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Media Sampling (water, soil, sediment, sludge, building materials, product, etc.)	1. Wear appropriate PPE to avoid skin, eye, and inhalation contact with contaminated media. 2. Stand upwind to minimize possible inhalation exposure, especially when opening monitoring wells or closed containers/vessels. 3. Conduct air monitoring, whenever necessary to determine level of respiratory protection. 4. If necessary, employ engineering controls to assist in controlling chemical vapors.
Cleaning Equipment	1. Wear appropriate PPE to avoid skin and eye contact with isopropyl alcohol, alconox, or other cleaning materials. 2. Stand upwind to minimize possible inhalation exposure. 3. Proper disposal of spent chemical cleaning solutions and rinse accordingly.
Poor Structural Building Condition	1. Assess building condition prior to entering and note where exit points are at all times. 2. Be cautious when walking inside the building. Always look for holes in the floors or hanging debris which could cause injury. 3. Carry a high power flashlight and use as necessary in low light areas. 4. If working in the building, make sure work area is neat and tools are staged in one general area. 5. Wear steel-toe boots with adequate tread. 6. Try to employ the buddy system so someone knows what part of the building individuals are in.
Note: A first aid kit and fire extinguisher will be located in the C.T. Male company vehicle.	

Response actions to personal exposure from on-site contaminants include skin contact, eye contact, inhalation, ingestion, and puncture or laceration. The recommended response actions are presented in Section 11.2.

6.0 TRAINING

Site-specific training of workers and personnel will be conducted and provided by the HSO or designee prior to any on-site activity. The training will specifically address the activities, procedures, monitoring and equipment for the site operations. It will include area and facility layout, hazards, emergency services (police, hospital, fire, etc.), and review of this HASP. Questions by workers, field personnel, etc. will be addressed at this time.

Workers and personnel conducting and/or supervising the project must have attended and successfully completed a 40 Hour Health and Safety Training Course for Hazardous Waste Operations, an annual 8 hour Refresher Course, and take part in an employer medical surveillance program in accordance with OSHA 1910.120 requirements, specifically, that the workers have had a medical physical within one (1) year prior to the date the work begins and that they are physically able to wear a respirator.

Documentation of training and medical surveillance will be submitted to the HSO or designee prior to the start of any on-site work. A copy of the training certificates shall be inserted into the pocket of this HASP in Appendix A.

7.0 SITE ACCESS

The site investigation will be generally performed within the boundaries of the 849 First Street property. Due to the site location, it is likely that the general public and curious bystanders will be present at the time of the work. Therefore, the work area will be considered any portion of the property within the property line limits. Only OSHA trained individuals which are qualified to do the work and have read and signed this site specific HASP will be allowed on to the property. The HSO or designee will be responsible for limiting access to unauthorized individuals.

During completion of the site investigation and remediation activities, a 100-foot circle around the immediate work area will be considered the Exclusion Zone (contaminated area where investigation/remedial work is to be conducted). The Contamination Reduction Zone (decontamination area), and Support Zone (clean area, everywhere else) will be established outside the Exclusion Zone, as necessary. The exclusion, contamination reduction, and support zone during investigation/remediation work have been identified and designated as follows:

Exclusion Zone - The location of the exclusion zone will be determined in the field prior to the start of work and will vary depending on the work activities conducted. For the most part, the exclusion zone is anticipated to be a 100 foot radius around the work area. The outside exclusion zones will be delineated with cones and yellow caution tape or equal method, where applicable. Only authorized persons with proper training and protective gear will be allowed to enter the exclusion zone. If the exclusion zones, as previously explained, changes orientation during the completion of the work, the HASP will be amended in the field to reflect the change.

Contamination Reduction Zone – If applicable, this zone will generally be a 10'± x 10'± area, marked off with stakes and blue and white colored flagging or equal method, containing the decontamination pad. The location will be determined in the field prior to the start of work and will vary depending on the area(s) the work is being conducted. This zone is where decontamination of personnel and equipment will take place, as necessary, on the basis of the work being performed. It will be located upwind of the Exclusion Zone, if possible.

Support Zone - Area outside of contamination reduction zone and not including the exclusion zone. Unauthorized or untrained individuals must remain in this zone.

8.0 PERSONAL PROTECTION

8.1 Level of Protection

Based on evaluation of the potential hazards, the minimum level of protection to be worn by workers during implementation of the site investigation is defined as Level D protection, and will be controlled by the HSO or designee.

The minimum level D protective equipment will consist of field clothes, rubber gloves, hard hats, safety glasses, and safety boots (steel-toe preferred). As appropriate, this level of protection may be modified to include polylaminated Tyvek suits, coveralls, leg chaps, or face shield for additional protection. Both full-face and half-face air purifying respirators should be readily available. Appropriate combination organic vapor and particulate cartridge filters will be available at the site, to use, if necessary with the air purifying respirators.

If required, level C protective equipment will consist of the items listed for Level D protection with the added protection of full-face, air purifying (organic vapor and particulate) respirator, chemical resistant clothing, inner and outer chemically resistant gloves (i.e. solvent resistant nitrile, PVC/nitrile), and chemical resistant safety boots/shoes.

Level B is not anticipated, but if required, level B protective equipment will consist of the items listed for Level D protection except a self-contained breathing apparatus (SCBA) will be worn dependent on the level of contaminants present in the work zone, and polylaminated Tyvek suits will be required. When site conditions warrant the need for level B protective equipment, work will cease and the project will be re-evaluated to determine the necessity for employing engineering controls to reduce or eliminate the potential contaminants of concern.

8.2 Safety Equipment

Basic emergency and first aid equipment will be available at an area within the Support Zone clearly marked and available or within C.T. Male's company vehicle. This shall include a first aid kit, fire extinguisher, supply of potable water, soap and towels. The HSO or designee shall be equipped with a cellular phone in case of emergencies. If the cellular phone is not available, or is inoperable, the phone across the street from the site at the fire house or a pay phone in the immediate vicinity will be used.

9.0 COMMUNICATIONS

There are no existing phone services associated with the subject site. The HSO or designee shall be equipped with a cellular phone in case of emergencies. If the cellular phone is not available, or is inoperable, the phone at the fire house or a pay phone in the immediate vicinity will be used. The HSO or designee shall notify the C.T. Male project manager as soon as safely possible in the event of an accident, injury or emergency action.

Hand signals for certain work tasks will be employed, as necessary, and the buddy system will be employed during excavation, drilling and sampling activities.

10.0 DECONTAMINATION PROCEDURES

10.1 Personnel Decontamination Procedures

Decontamination procedures will be carried out by all personnel leaving the Exclusion Zone (except under emergency evacuation). The amount of decontamination performed will be dependent on the level of personal protection currently being worn within the exclusion zone.

1. Do not remove respiratory protection until all of steps have been completed.
2. Clean outer protective gloves and outer boots, if worn, with water (preferably with a pressurized washer) over designated wash tubs in the exclusion zone to remove the gross amount of contamination.
3. Deposit equipment used (tools, sampling devices, and containers) at designated drop stations - on plastic drop sheets or in plastic lined containers.
4. Rinse outer boots if worn and gloves with clean water in designated rinse tubs. Remove outer boots if worn and gloves and deposit in designated area to be determined in the field for use the next day or when necessary. If disposable outer boots are worn, remove and discard in designated container.
5. Remove hard hat & safety glasses, rinse with clean water as necessary and deposit in designated area for use the next day or when necessary.
6. Remove Tyvek suit, if worn, and discard in designated container. Remove respirator at this time, if used; wash and rinse with clean water. Organic vapor cartridges, when used, will be replaced daily. Used cartridges will be discarded in the designated waste container. Remove inner gloves and discard in designated container.

10.2 Equipment and Sample Containers Decontamination

All decontamination will be completed by personnel in protective gear appropriate for the level of protection determined by the site HSO or designee. Manual sampling equipment including trowels, hand augers, shovels and sampling spoons which come into contact with the site's soils, will be cleaned with a tap

water/detergent wash and a tap water rinse. The sampling equipment will be washed after each surface soil sample is collected and the wash and rinse water will be allowed to infiltrate the site's soils at each sampling point.

Larger excavation equipment (i.e., rubber-tire backhoe or track excavator) which comes into contact with the site's soils will be decontaminated with a high pressure/hot water wash. The decontamination procedure will focus on portions of the equipment that has come into contact with the site's soils such as the bucket. The cleaning will be performed at the completion of each test pit or trench and the cleaning fluids will be captured on a temporary decon pad, and then transfer to 55 gallon drums.

Geoprobe equipment which comes into contact with the site's soils will be decontaminated with a high pressure/hot water wash. The decontamination procedure will focus on portions of the equipment that has come into contact with the site's soils such as the macro core sampler and rods. The cleaning will be performed at the completion of each boring location so that the cleaning fluids will infiltrate the site's soils at the boring location were the drilling was performed.

Exterior surfaces of sample containers will be wiped clean with disposable wipes in the decontamination zone and transferred to a clean cooler for transportation or shipment to the analytical laboratory. Sample identities will be noted and checked off against the chain-of-custody record. The disposable wipes will be placed in the designated disposal container and disposed of as solid waste.

11.0 EMERGENCY RESPONSE PROCEDURES

THE PROJECT EMERGENCY COORDINATOR IS:

Site Health and Safety Officer (HSO) Nathan Freeman

The following standard emergency procedures will be used by on-site personnel. The Project Manager and HSO shall be notified of any on-site emergencies and be responsible for assuring that the appropriate procedures are followed.

11.1 Personal Injury

Emergency first aid shall be administered on-site as deemed necessary and only by a trained individual, if available at the site. If a trained individual is not available on-site, decontaminate, if feasible, and transport individual to nearest medical facility (Albany Memorial Hospital). The HSO will supply medical data sheets to appropriate medical personnel and be responsible for completing the incident report. If the HSO is injured or controlling the emergency situation, the medical data sheets are available in Appendix B of this Health and Safety Plan.

11.2 Personal Exposure

The recommended response to worker exposure from contaminants on-site includes the following:

SKIN CONTACT: Use generous amounts of soap and water. Wash/rinse affected area thoroughly, then provide appropriate medical attention, as necessary.

EYE CONTACT: Wash eyes thoroughly with potable water supply provided on site. Eyes should be rinsed for at least 15 minutes subsequent to chemical contamination. Provide medical attention, as necessary.

INHALATION: Move worker to fresh air and outside of the work zone and/or, if necessary, decontaminate and transport to hospital (Albany Memorial Hospital). If respirator use is implemented at the time of inhalation, worker must not remove respirator until completely away from the work zone.

INGESTION: Decontaminate, if feasible, and transport to hospital (Albany Memorial Hospital).

PUNCTURE WOUND OR
LACERATION: Provide first aid at the site and if wound needs medical attention, decontaminate, if feasible, and transport to hospital (Albany Memorial Hospital).

If the affected worker is exposed to contaminants on-site and the injury or accident prevents decontamination of the individual, the emergency responders must be notified of this condition and the exposure must be kept to a minimum.

11.3 Potential or Actual Fire or Explosion

Immediately evacuate area in the event of potential or actual fire or explosion. Notify the local fire and police departments, and other appropriate emergency response groups, as listed in Section 1.2. Perform off-site decontamination and contain wastes for proper disposal. If a fire or explosion occurs, all on-site personnel must meet in the designated area of the site (established by the HSO or designee) for an accurate head count.

11.4 Equipment Failure

Should there be any equipment failure, breakdown, etc. the Project Manager and HSO shall be contacted immediately. The Project Manager or the HSO will make every effort to replace or repair the equipment in a timely manner.

11.5 Spill Response

The site HSO or designee shall initiate a corrective action program with the subcontractors in the event of an accidental release of a hazardous material or suspected hazardous material. The HSO or designee will act as the Emergency Coordinator with the subcontractors for the purposes of: spill prevention; identifying releases; implementing clean up measures; and notification of appropriate personnel.

The corrective action program will be implemented by the HSO and subcontractor to effectively control and minimize any impact accidental releases may have to the environment.

Effective control measures will include:

- Preliminary assessment of the release
- Control of the release source
- Containment of the released material
- Effective clean-up of the released material

Potential sources of accidental releases include: hydraulic oil spills or petroleum leaks from heavy equipment; cooling oils (potentially PCB containing) from electrical equipment, and spills from drums and/or tanks that may be encountered during the site investigation. The HSO/Emergency Coordinator in conjunction with the subcontractor shall respond to an accidental release in the following manner:

- Identify the character, source, amount and area affected by the release.
- Have subcontractor take all reasonable steps to control the release.
- Notify the NYSDEC Spill Hotline at 1-800-457-7362. Notify NYSDEC Project Manager Ian Beilby and Schuyler Heights Fire District (Mark Depasquale).
- Contain the release with sorbent material which should include speedi-dry, spill socks and sorbent pads.
- Prevent the release from entering sensitive receptors (i.e., catch basins and surface water) using the specified sorbent material or sandbags.
- Coordinate cleanup of the release material.
- Oversee proper handling and storage of contaminated material for disposal.

At no time should personal health or safety be compromised or jeopardized in an attempt to control a release. All health and safety measures as outlined in this HASP should be adhered to.

12.0 ADDITIONAL WORK PRACTICES

Workers will be expected to adhere to the established safety practices. Work on the project will be conducted according to established protocol and guidelines for the safety and health of all involved. The following will be adhered to:

- Employ the buddy system when possible, and for those work tasks which require it. Establish and maintain communications.
- Minimize contact with potentially contaminated soil and water.
- Employ disposable items when possible to minimize risks during decontamination and possible cross-contamination during sample handling.
- Smoking, eating, or drinking after entering the work zone and before decontamination will not be allowed (to prevent oral ingestion of potential on-site contaminants).
- Avoid heat and other work stress related to wearing personal protective equipment. Take breaks as necessary and drink plenty of fluids to prevent dehydration.
- Withdrawal from a suspected or actual hazardous situation to reassess procedures is the preferred course of action.
- The removal of facial hair (except mustaches) prior to working on-site will be required to allow for a proper respiratory face piece fit.
- The Project Manager, the HSO, and sampling personnel shall maintain records recording daily activities, meetings, facts, incidents, data, etc. relating to the project. These records will remain at the project site during the full duration of the project so that replacement personnel may add information while maintaining continuity. These daily records will become part of the permanent project file.

13.0 AUTHORIZATIONS

Personnel authorized to enter the exclusion zone at the Environmental Restoration Project being conducted at the Proposed Schuyler Heights Fire Department, 849 First Street Watervliet, Town of Colonie in Albany County, New York while operations are being conducted must be certified by the HSO. Authorization will involve completion of appropriate training courses and review and sign off of this HASP.

Personnel authorized to perform work on-site are as follows:

1. John Favreau C.T. Male
2. Jeffrey Marx C.T. Male
3. Kirk Moline C.T. Male
4. Nathan Freeman C.T. Male
5. Megan Drosky C.T. Male
6. Dan Achtyl C.T. Male
7. Josh Karon C.T. Male
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

14.0 MEDICAL DATA SHEET

This medical data sheet will be completed by all on-site personnel and will be kept on-site during the duration of the project. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

PROJECT: Environmental Restoration Project to be conducted at 849 First Street, Watervliet, New York.

Name _____ Home Telephone _____

Address _____

Emergency Contact _____

Drug or Other Allergies _____

Particular Sensitivities _____

Do You Wear Contact Lenses _____

Provide a Checklist of Previous Illness or Exposure to Hazardous Chemicals

_____

What Medications Are You Presently Using _____

_____

Do You Have Any Physical or Medical Restrictions _____

_____

Are You Qualified to Wear Respirator (Provide Fit Test Results)_____

Name, Address, and Telephone Number of Personal Physician:

_____

_____

_____

15.0 FIELD TEAM REVIEW

Each field team member shall sign this section after site specific training is completed and before being permitted to work on-site.

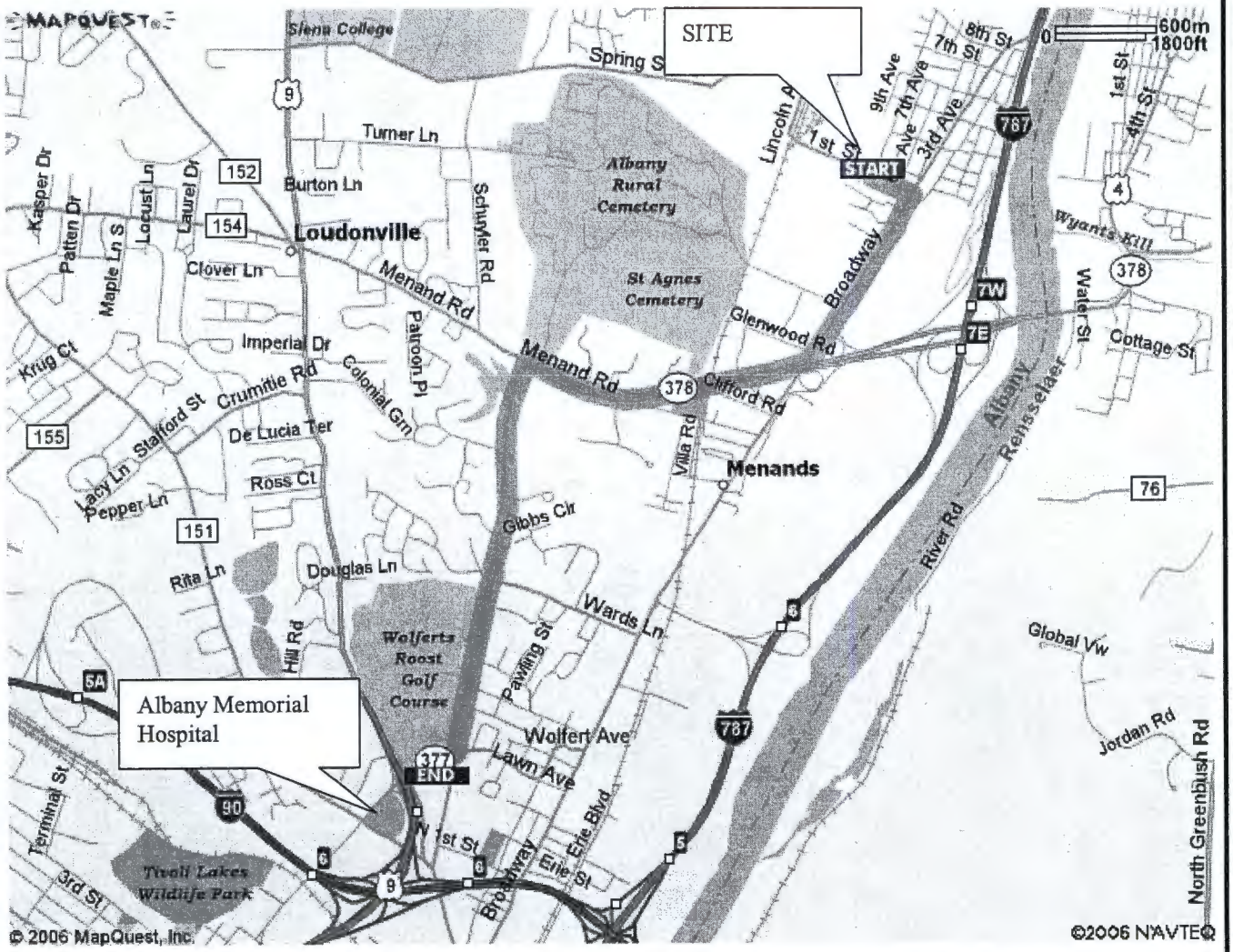
I have read and understood this Site Specific Health and Safety Plan, and I will comply with the provisions contained therein.

PROJECT: Environmental Restoration Project
Schuyler Heights Fire District
849 First Street
Town of Colonie
Albany County, New York

Name: Printed	Signature	Date

FIGURE 1

MAP SHOWING ROUTE TO ALBANY MEMORIAL HOSPITAL



Directions to Albany Memorial Hospital

Start out going SOUTHEAST on 1st ST toward 8th Ave
Turn RIGHT onto BROADWAY/NY-32
Merge onto NY - 378W
Turn LEFT onto VAN RENSSELAER BLVD/NY – 377S
Turn SLIGHT RIGHT onto NY – 377/NORTHERN BLVD.
END at Albany Memorial Hospital

MAP REFERENCE

www.mapquest.com

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ARCHITECTURE &
BUILDING SYSTEMS
ENGINEERING
CIVIL ENGINEERING
ENVIRONMENTAL SERVICES
SURVEY & LAND
INFORMATIONAL SERVICES

C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786- 7400 FAX (518) 786-7299

FIGURE 1
Map Showing Route to Albany Memorial Hospital

TOWN OF COLONIE

SCALE: As Shown

DRAFTER: NTF

PROJECT No. 05.5698

Schuyler Heights Fire District
849 1st Street
Watervliet, NY

APPENDIX A

TRAINING CERTIFICATES

APPENDIX B

MEDICAL DATA SHEETS

APPENDIX C

COMMUNITY AIR MONITORING PLAN

APPENDIX 1A

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. 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 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.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 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 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 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 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 must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should 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 must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should 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 must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that 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 provided that 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 must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX E

CITIZEN PARTICIPATION PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

PREFACE

ENVIRONMENTAL RESTORATION PROJECT

This Citizen Participation Plan has been developed for the Schuyler Heights Fire District, 849 First Street Site under New York State's Environmental Restoration Projects Program.

Brownfields are abandoned, idled, or under-used properties where expansion or redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. They often pose not only environmental, but legal and financial burdens on communities. Left vacant, contaminated sites can diminish the property value of surrounding sites and potentially threaten the economic viability of adjoining properties.

RESOURCES AVAILABLE FOR COMMUNITY REDEVELOPMENT

In an effort to spur the cleanup and redevelopment of brownfields, Governor Pataki proposed, and New Yorkers approved, a $200 million Environmental Restoration Fund as part of the $1.75 billion Clean Water/Clean Air Bond Act of 1996 (1996 Bond Act). Under the Program, the State provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Only New York State municipalities are eligible. The term "municipality" includes counties, cities, towns and villages as well as local public authorities, public benefit corporations, school and supervisory districts and improvement districts. The term also includes a municipality acting in partnership with a community based organization.

Once remediated, the property may then be reused for commercial, industrial, residential or public use. In addition, the municipality and all successors in title, lessees, and lenders are released from remedial liability for hazardous substances that were on the property prior to the grant. The State indemnifies these same persons in the amount of any settlements/judgments obtained regarding an action relating to hazardous substances that were on the property prior to the grant.

CITIZEN PARTICIPATION PLAN
SCHUYLER HEIGHTS FIRE DISTRICT
849 FIRST STREET
TOWN OF COLONIE
ALBANY COUNTY, NEW YORK

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FIGURES

1.0 INTRODUCTION

The Schuyler Heights Fire District and the New York State Department of Environmental Conservation (NYSDEC), in cooperation with the New York State Department of Health (NYSDOH), are committed to informing and involving the public during the process to develop the Remedial Investigation (RI) Work Plan and subsequent Alternatives Analysis Report (AAR) for the proposed Schuyler Height Fire Department Site. Portions of the Site have historically been used for the loading and unloading of railroad cars and as a scrap metal recycling facility. The Site is located along the north side of First Street, west of 8th Avenue, in the Town of Colonie, Albany County, New York, as shown on Figure 1 - Site Location Map in the RI Work Plan and Figure 1 of this document. This Citizen Participation (CP) Plan has been prepared by C.T. Male Associates, P.C. (CTM) of Latham, New York on behalf of the Schuyler Heights Fire District specifically for this site. Definitions of some common terms used in the RI / AAR process may be found in Section 6.0.

The RI is a detailed study to determine how much contamination there is, how far it extends, and potential threats to public health and the environment. Using information developed during the RI, the AAR evaluates possible ways to clean up the site. NYSDEC describes its preferred remedy in a Proposed Remedial Action Plan (PRAP). After public comment, the selection of a remedy is finalized in a Record of Decision (ROD).

The CP Plan seeks to ensure an open process for the interested and possibly affected public. This includes public officials, citizen interest groups, commercial interests, individuals in the area of the site, and the media. These parties can be a part of the decision-making process for this site, and need to be informed about on-site activities. It also identifies locations where these parties can obtain additional information about the remedial program for this site. Specific opportunities for public and community input into the decision-making process are indicated.

The CP Plan is a working document. It can be enhanced to accommodate major changes in either public attitude, or in the nature and scope of technical activities at the site. The activities listed below are not intended to be an all-inclusive list, but an outline

of possible activities which may be conducted in coordination with the site investigation and remedial process.

This CP Plan includes the following information:

- A description of the site history, indicating possible types of contamination, any past studies, and any previous remedial measures that may have occurred at the site;
- A description of the proposed Remedial Investigation/Alternatives Analysis Report activities;
- Listing of contacts representing the affected and interested public agencies associated with this project;
- Identification of a local repository for information and reports generated during the course of completing the investigation activities; and
- Description of planned citizen participation activities.

2.0 PROPERTY INFORMATION

2.1 Project Location

The site is located along the north side of First Street, west of 8th Avenue, in the Town of Colonie, Albany County, New York. The site is identified on the Town of Colonie tax maps as being within the parcel with Section 44.11, Block 1, Lot 50.1. The subject site can be accessed from First Street and 8th Avenue. A map showing the site property boundaries is included as Figure 2.

2.2 Site Description

The site is currently undeveloped vacant land with an unimproved driveway traversing the site in a north/south direction which is accessed from First Street. The site is approximately 7.52 acres in size and is irregular in shape. Land usage surrounding the site consists of residential, Fire Department, vacant and active industrial and scrap metal recycling.

2.3 Site History

The site was reportedly once part of the land belonging to the Colonie Yards of the D & H Railroad. D & H Railroad used the site as a grain loading and unloading area. More recently the site has been used as a scrap metal recycling facility. The site is currently unoccupied vacant land.

A limited Phase I ESA was conducted by Environmental Products and Services (EPS), Albany, NY Division, in July of 2002. The results of the limited Phase I ESA triggered a limited Phase II ESA, also conducted by EPS. The limited Phase II ESA focused on evaluating prior uses of the property and adjacent land uses that may have impacted the soil and groundwater quality at the subject site. The work performed included test pit excavations, soil samples, a monitoring well installation, groundwater sampling and laboratory analysis. Results of one soil sample revealed the presence of several semi-volatile organic compounds. The groundwater sample revealed results below laboratory detection limits for all compounds analyzed. Both ESA reports were provided to the NYSDEC with the ERP application.

C.T. Male Associates (CTM) conducted a Phase I ESA for the subject site in January 2005. The results of the CTM Phase I revealed many similarities to the EPS ESA. The ESA was provided to the NYSDEC with the ERP application.

3.0 PLANNED SITE INVESTIGATION

3.1 Scope of the Investigation

A Remedial Investigation Work Plan has been prepared which includes the following major tasks:

- Site Reconnaissance
- Surface Soil Sampling
- Subsurface Investigation (Test Pits/Trenches and Soil Borings)
- Soil and Groundwater Sampling and Laboratory Analysis
- Soil Vapor Sampling and Laboratory Analysis

The Remedial Investigation Work Plan provides additional details about the investigation. Copies of the Work Plan can be reviewed at the repositories listed in Section 4.2 of this CP Plan.

3.2 Schedule of the Investigation Program

The following is a list of the major steps to be completed during the course of this remedial investigation:

1. Prepare Draft Remedial Investigation Work Plan
2. NYSDEC and NYSDOH review and public comment period
3. Address NYSDEC/NYSDOH comments and submit Final Remedial Investigation Work Plan for approval
4. Complete Remedial Investigation
5. Prepare Draft Remedial Investigation/Alternatives Analysis Report
6. NYSDEC/NYSDOH review, comment and approval period
7. Address NYSDEC/NYSDOH comments and submit Final Remedial Investigation/Alternatives Analysis Report
8. NYSDEC prepares Proposed Remedial Action Plan (PRAP)
9. 45-day public comment period before selection of final remedy (NYSDEC may hold public meeting during this time period)

10. NYSDEC prepares a Responsiveness Summary to address public comments from the PRAP

11. NYSDEC prepares Record of Decision and notifies the public on its availability

Field investigation activities are expected to begin in the spring and will take approximately four to five weeks to complete. The remaining activities will occur subsequently, based on the results of the initial data gathered. Laboratory results should be available within six weeks after sample collection. A draft RI report should be submitted to Schuyler Heights Fire District, the NYSDEC and the NYSDOH in a timely manner after the analytical data has been received, reviewed and validated.

4.0 CITIZEN PARTICIPATION ACTIVITIES

It is the expressed intent of Schuyler Heights Fire District and the NYSDEC to provide information to the public in a timely, complete, and accurate manner. Toward this end, a list has been compiled of individuals to whom the public can address specific requests for information. These contacts are both local and state public officials and are knowledgeable of the proposed investigative activities. This list of contacts is provided in Table 1, Section 4.1, below.

Multiple repositories for documents and other information regarding the project have been established. Specific information pertaining to the repositories of information is presented in Section 4.2 below. A copy of the documents relevant to the RI/AAR, including the RI Work Plan, will be available at the listed repositories to allow interested citizens and groups to review these documents.

A Fact Sheet detailing the availability of the RI Work Plan will be sent out to the residents and other interested parties on the project mailing list. This mailing will include information about the document repositories, the name and address of the Schuyler Heights Fire District contact, NYSDEC Citizen Participation Specialist, NYSDEC Project Manager and NYS Department of Health contact. Parties who express interest in being placed on or removed from the mailing list will be added or removed as requested. The Fact Sheet will also serve as an invitation for the public to provide input on the Work Plan via written or oral comments.

Additional activities, such as a public meeting and/or Fact Sheet after the site investigation is completed will be added as appropriate.

Once the RI/AAR has been accepted, the NYSDEC will issue a Proposed Remedial Action Plan (PRAP) for the site. This plan will use the information contained in the RI/AAR and evaluate several alternatives to address the contamination at the site. This plan will then propose a course of remedial action for the site.

A public meeting will then be held to present the RI/AAR and the PRAP to the public. This presentation will be followed by a formal question and answer period. The PRAP will also have a 45-day comment period, during which written comments and questions can be submitted.

After the comment period, a Record of Decision (ROD) will be issued by the NYSDEC identifying the remedy selected for the site, and the basis for this selection. As part of the ROD, a responsiveness summary will be prepared. This responsiveness summary will include all relevant and significant questions and comments received on the PRAP and the NYSDEC/NYSDOH responses to this input.

The ROD and the PRAP, and all NYSDEC-approved reports, plans, and fact sheets on this project will be placed in the document repositories for public review. These documents may be distributed more widely, such as to interested local groups, if warranted.

4.1 Public Agency Contacts

The Schuyler Heights Fire District has identified individuals knowledgeable of the proposed remedial investigation activities. These individuals are identified in Table 4.1-1.

Table 4.1-1: Public Agency Contacts

City and County Contacts		
Honorable Robert D. Carlson Watervliet Mayor	Room 3 City Hall Watervliet, New York 12189	(518) 270-3815
Mr. Michael Breslin Albany County Executive	112 State Street, Room 200 Albany, New York 12207	(518) 447-7040
Mr. Mark Fitzsimmons Director	Albany County Economic Development, Conservation & Planning 112 State Street , Room 1006 Albany, New York 12207	(518) 447-5660
NYS Department of Environmental Conservation Contacts		
Mr. Ian Beilby, P.E. DEC Project Manager	Division of Environmental Remediation 625 Broadway, 12th Floor Albany, New York 12233	(518) 402-9818
Mr. Michael Komoroske, P.E. Regional Engineer	Division of Environmental Remediation 625 Broadway, 12th Floor Albany, New York 12233	(518) 402-9813

Table 4.1-1: Public Agency Contacts		
NYS Department of Health Contacts		
Mr. Bruce Donovan NYSDOH Technical Lead	Environmental Health Program Capital District Regional Office Frear Building, One Fulton Street Troy, New York 12180	(518) 402-7860

4.2 Document Repository Location

Four document repositories have been established to provide the public with convenient access to important project documents and other information. This information may include reports, data and other information gathered and developed during the course of the site investigation. Fact sheets, public meeting announcements, the Proposed Remedial Action Plan and the Record of Decision will be available for review by the public. The document repositories for this project are the following:

- Watervliet Public Library
  1501 Broadway Watervliet, New York 12189
  Telephone: (518) 274-4471
  Hours of Operation: Monday - Thursday 12:00 - 8:00pm,
  Friday 12:00 – 4:00pm

- City of Watervliet
  City Hall (City Clerk's Office) Watervliet, New York 12189
  Telephone: (518) 270-3810
  Hours of Operation: Monday-Friday 9:00am - 4:00pm

- Schuyler Heights Fire District
  900 First Street, Watervliet, New York 12189
  Telephone: (518) 271-7851

- New York State Department of Environmental Conservation
  625 Broadway Albany, New York 12233
  Telephone: (518) 402-9818
  Hours of Operation: Monday-Friday 8:00am - 4:30pm

In general, the availability of documents placed in these repositories will be announced through fact sheets, public meetings and other appropriate means. It is requested that the Schuyler Heights Fire District and the New York State Department of Environmental Conservation Office be contacted prior to arrival to determine the availability of documents.

5.0 PROJECT MAILING LIST

This section identifies the public interest groups, adjacent and nearby residents within close proximity to the site, adjacent businesses, news media, and local and state elected officials that are included on the mailing list for this project. The Fire District will produce and distribute Fact Sheets providing residents and other elected officials/representatives, environmental groups, and media (as listed in this section) with timely information on the project status, including notifications of upcoming activities on-site (i.e., field work) or off-site (i.e., public availability sessions). Included in the Fact Sheets will be the list of individuals to be contacted by the public for additional information (see Table 4.1-1 above).

5.1 Public Interest Groups

1. New York Public Interest Research Group (NYPIRG), State University College, Campus Center 307, Albany, New York 12222, (518) 442-5658

5.2 Adjacent and Nearby Residents

A list of adjacent and nearby residents is maintained confidentially in project files, not in the CP Plan or repositories. If residents with interest in the project desire to add their name and address to this list, please contact Mr. Ian Beilby of NYSDEC at the address or telephone number listed in Section 4.1. The adjacent and nearby residents list will be reviewed periodically and updated as appropriate.

5.3 Adjacent Businesses

The following businesses have been identified adjacent to the subject site:

- Schuyler Heights Fire Department, 900 First Street, Watervliet, NY 12189
- Streck's Machine Shop, 800 First Street, Watervliet, NY 12189
- Metro Metal Recycling LLC, 849 First Street, Watervliet, NY 12189

Other active businesses within the immediate vicinity of the site have been included on the project's mailing list.

5.4 News Media

1. The Record
   501 Broadway, Troy, New York 12180, (518) 270-1200

2. The Times Union
   645 Albany-Shaker Road, Albany, New York 12211, (518) 454-5694

5.5 Local and State Elected Officials

1. The Honorable Robert Carlson, City of Watervliet Mayor, City Hall, Watervliet, NY 12189, (518) 270-3815

2. The Honorable Michael Breslin, Albany County Executive, 112 State Street, Room 200, Albany, New York 12207, (518) 447-7040

3. The Honorable Marlene Prentiss, Assemblyman, New York State Assembly, 112 State Street, Room 1114 , Albany, New York 12207, (518) 447-7168

4. The Honorable John Frederick, Assemblyman, New York State Assembly, 112 State Street, Room 1114, Albany, New York 12207, (518) 447-7168

5. The Honorable Hugh T. Farley, Senator, New York State Senate, LOB 412, Albany, New York 12247, (518) 455-2181

6. The Honorable Charles Schumer, United States Senate, 313 Hart Senate Building, Washington, D.C. 20510-0605, (202) 224-6542

7. The Honorable Hillary Rodham Clinton, United States Senate, 476 Russell Senate Office Building, Washington, D.C. 20510, (202) 224-4451

8. The Honorable Michael McNulty, United States Congress, 2210 Rayburn House Office Building, Washington, D.C., 20515-3221, (202) 225-5076

9. Mary Brizzell, Town of Colonie Supervisor, Memorial Town Hall, 534 Loudon Road, Newtonville, New York 12128

6.0 GLOSSARY OF KEY TERMS

This glossary defines terms associated with NYSDEC's citizen's participation program, and important elements of the Environmental Restoration Program.

Administrative Record - Part of a site's Record of Decision which lists and defines documents used in the development of NYSDEC's decision about the selection of a remedial action.

Availability Session - A scheduled gathering of program staff and members of the public in a casual setting, without formal presentation or agenda but usually focusing on a specific aspect of a site's remedial process.

Citizen Participation - A process to inform and involve the interested/affected public in the decision-making process during assessment and remediation of sites. This process helps to assure that the best decisions are made from environmental, human health, economic, social and political perspectives.

Citizen Participation Plan - A document that describes the specific Citizen Participation activities that will take place during the site investigation and remedial activities.

Citizen Participation Specialist - A NYSDEC staff member who provides guidance, evaluation and assistance to help the NYSDEC Project Manager carry out his/her site-specific Citizen Participation program.

Comment Period - A time period for the public to review and comment about various documents and NYSDEC actions. For example, a 45-day comment period is provided when NYSDEC issues a Proposed Remedial Action Plan (PRAP).

Contact List - Names, addresses, and/or telephone numbers of individuals, groups, organizations, and media interested and/or affected by a particular site during the remedial program. It is used to inform and involve the interested/affected public.

Division of Environmental Remediation - A major program unit within NYSDEC created to manage hazardous waste site remedial program, the Brownfield program, and the Voluntary Cleanup Program. Staff include: engineers, geologists, chemists,

attorneys, citizen participation specialists, environmental program specialists and support staff.

Document Repository - Typically, a regional NYSDEC office and/or public building, such as a library, near a particular site, at which documents related to investigation, remedial activities, and citizen participation activities at the site are available for public review.

Fact Sheet - A written discussion of a site's remedial process, or some part of it, prepared by NYSDEC for the public in easily understandable language. Uses may include, for example: discussion of an element of the remedial program, opportunities for public involvement, availability of a report or other information, or announcement of a public meeting. It may be mailed to all or part of the interested public, distributed at meetings and availability sessions or sent when requested.

Interim Remedial Measure (IRM) – A discrete action which can be conducted at a site relatively quick to reduce the risk to people's health and the environment from a well-defined petroleum or chemical waste problem. An IRM can involve removing contaminated soil or drums, providing alternative water supplies, or securing a site to prevent access.

NYS Department of Health - Agency within the executive branch of New York State government which: performs health-related inspections at suspected contaminated sites; conducts health assessments to determine potential risk from environmental exposure; reviews Exposure Assessments prepared during the Remedial Investigation/Alternatives Analysis Report; conducts health-related community outreach around sites; and reviews remedial actions to assure that public health concerns are adequately addressed.

NYSDEC Project Manager - A NYSDEC staff member within the Division of Environmental Remediation (usually an engineer, geologist or hydrogeologist) responsible for the day-to-day administration of activities, and ultimate disposition of, one or more Brownfields sites. The Project Manager works with the municipality representative(s), as well as fiscal and legal staff to accomplish site-related goals and objectives.

Operable Unit - A discrete part of an entire site that produces a release, threat of release, or pathways of exposure. An Operable Unit can receive specific investigation, and a particular remedy may be proposed. A Record of Decision is prepared for each Operable Unit.

Operation and Maintenance - A period in which remedial action may be conducted following construction at a site (for example, operation of a "pump and treat" system), or which is performed after a remedial action to assure its continued effectiveness and protection of people's health and the environment. Activities can include site inspections, well monitoring and other sampling.

Proposed Remedial Action Plan (PRAP) - An analysis by NYSDEC of each alternative considered for the remediation of a site and a rationale for selection of the alternative it recommends. The PRAP is created based on information developed during the site remedial alternative report. The PRAP is reviewed by the public and other state agencies.

Public Meeting - A scheduled gathering of the NYSDEC staff, the Owner, the Engineering Consultant and the public to give and receive information, ask questions and discuss concerns about the project. A Public Meeting generally features a formal presentation and a detailed agenda.

Public Notice - A written and/or verbal communication to inform the public about an important aspect of a site's remedial program. The public notice may be formal and meet legal requirements (such as legal notice in a local newspaper of general circulation), or may be more informal and may not be legally required.

Record of Decision - A document which provides definitive record of the cleanup alternative that will be used to remediate an Environmental Restoration site. The ROD is based on information and analyses developed during the Remedial Investigation/Alternatives Analysis Report and public comment.

Remedial Construction - The physical development, assembly and implementation of the remedial alternative selected to remediate a site. Construction follows the Remedial Design stage of a site's remedial program.

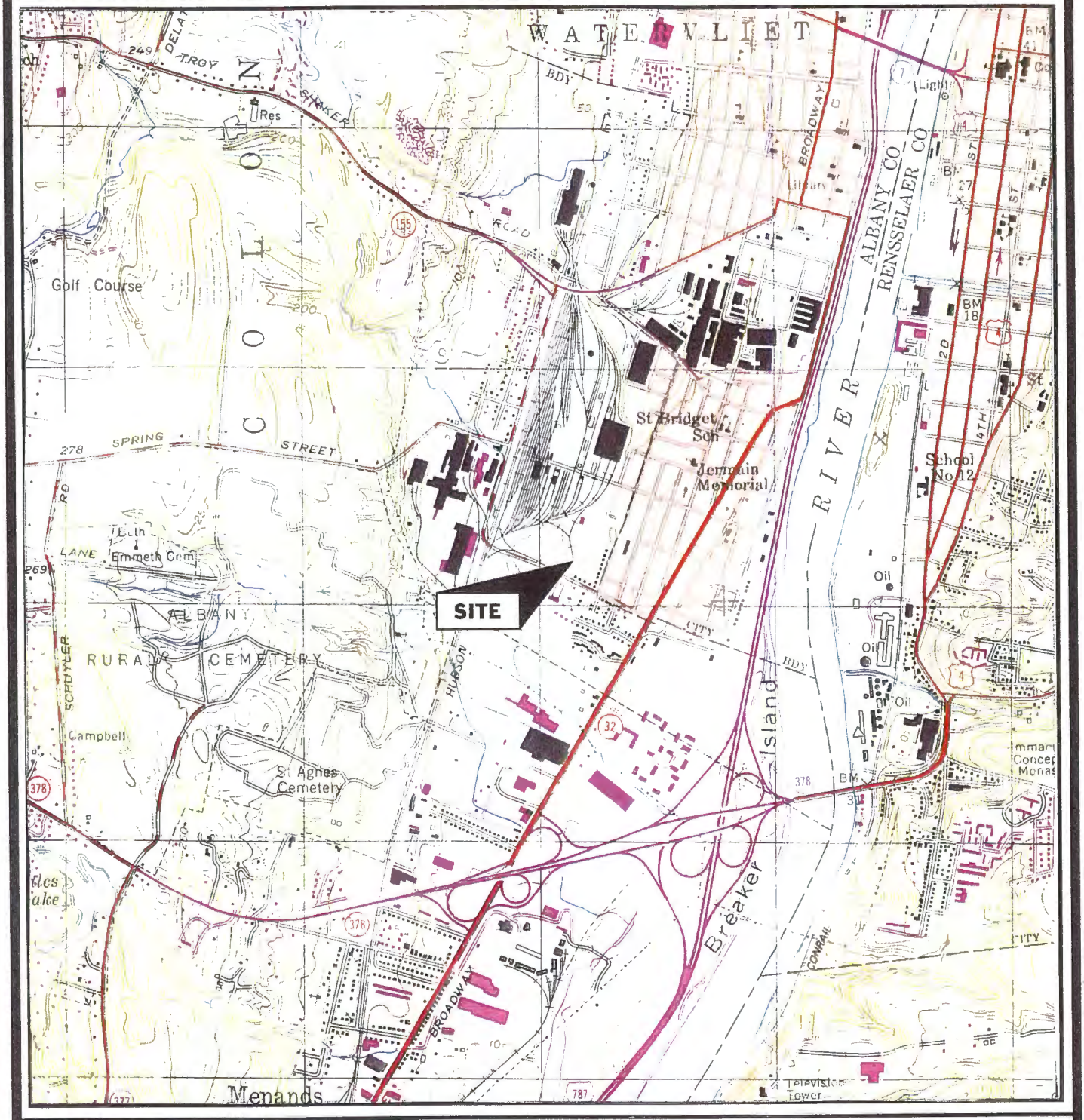
Remedial Design - The process following finalization of a Record of Decision in which plans and specifications are developed for the Remedial Construction of the alternative selected to remediate a site.

Remedial Investigation/Alternatives Analysis Report (SI/AAR) - The SI fully defines and characterizes the type and extent of contamination at the site. The AAR, which may be conducted during or after the RI, uses information developed during the RI to develop alternative remedial actions to eliminate or reduce the threat of contamination to public health and the environment.

Responsiveness Summary - A written summary of major oral and written comments received by NYSDEC during a comment period about the key elements of the site's remedial program and NYSDEC's response to those comments.

FIGURE 1

SITE LOCATION MAP



MAP REFERENCE
United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangle: Troy South, NY
Date: 1980

ENGINEERING
ENVIRONMENTAL SERVICES
SURVEYING
PHONE (518)786-7400
FAX (518) 786-7299

C.T.MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110

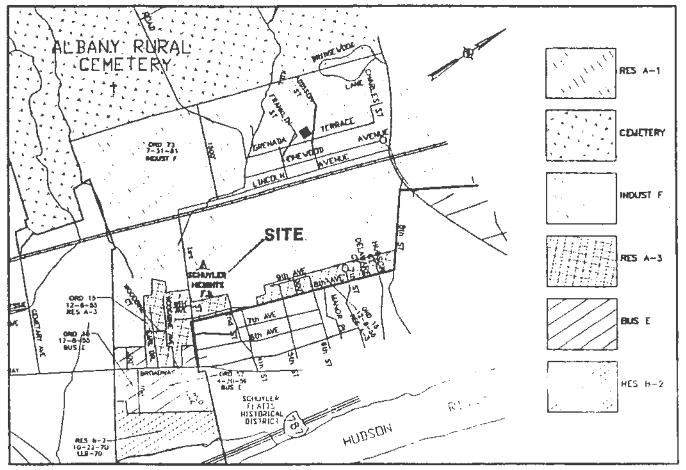
FIGURE 1 - SITE LOCATION MAP

849 FIRST STREET

TOWN OF COLONIE	ALBANY COUNTY, NY
SCALE: 1"=2,000'	
DRAFTER: ASG	
PROJECT No. 04.9808	

FIGURE 2

COLONIE TAX MAP



SITE LOCATION AND ZONING MAP

SCALE 1"=2,000'

TOWN OF COLONIE
ZONE: INDUSTRIAL F

	REQUIRED	PROPOSED LOT 849	PROPOSED LOT 851
LOT SIZE	20,000 S.F.	327,450.14± S.F. OR 7.52± ACRES	184,108.15± S.F. OR 4.22± ACRES
BUILDING HEIGHT	60 FT MAX.	–	16 FT
LOT WIDTH	100 FT	350± FT	100 FT
FRONT SETBACK	50 FT*	–	747 FT
SIDE SETBACK	20' FT MIN.	–	51 FT
SIDE SETBACK	20' FT MIN.	–	110 FT
REAR SETBACK	15' FT	–	27 FT

NOTES:

1. OWNER/APPLICANT NAME:
   RIL REALTY, INC.
   P.O. BOX 235
   WATERVLIET, NEW YORK 12189
2. SITE CONSISTS OF TWO LOTS FOR A COMBINED TOTAL OF 11.74± ACRES.
3. THE PROPERTY IS LOCATED IN A INDUSTRIAL F ZONE.
4. ALBANY COUNTY TAX MAP NUMBER: 44.10-1-32.
5. SETBACKS FOR INDUSTRIAL F:
   FRONT = 50' (*100' IF SHIPPING AND RECEIVING DOCKS FACE ROAD)
   SIDE = BUILDING HEIGHT + 5', MINIMUM 20', 2' ALLOWED FOR OVERHANG
   REAR = 15', 2' ALLOWED FOR OVERHANG
   * WHEN INDUSTRIAL DISTRICT F IS GREATER THAN 300' IN DEPTH AND ABUTTING A RESIDENTIAL DISTRICT, BUILDING SETBACK=100' MIN. PARKING SETBACK=50' MIN.
6. THE PURPOSE FOR THIS SUBDIVISION AMENDMENT IS FOR LOT LINE ADJUSTMENT.

MAP REFERENCES:

1. MAP ENTITLED "FINAL SUBDIVISION MAP FOR MBS REALTY ENTERPRISES, INC 849 FIRST STREET WATERVLIET, N.Y. 12189" DATED JANUARY 18, 1994, AS PREPARED BY C.T. MALE ASSOCIATES, P.C., BEARING DWG. NO. 93-922R FILED ON NOVEMBER 17, 1994. DRAWER 172, MAP 10036.

MAP NOTES:

1) NORTH ORIENTATION PER MAP REFERENCE NO. 1
2) DIMENSIONS IN PARENTHESIS INDICATE A DIFFERENCE BETWEEN SURVEY DISTANCE AND DEED DISTANCE.
3) TAX MAP DESIGNATION IS 44.10-1-32.

MAP REFERENCES:

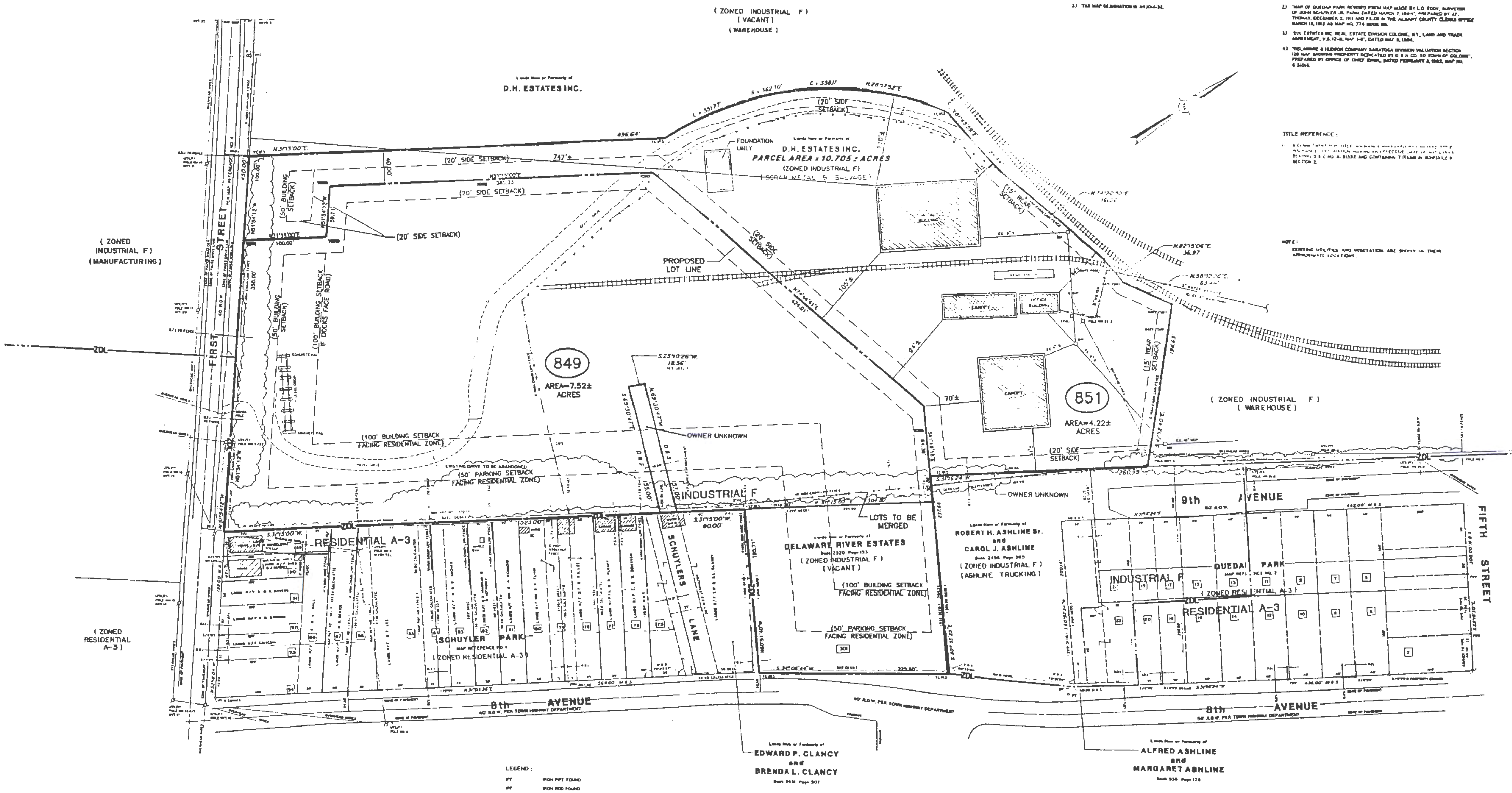
1) "SCHUYLER PARK WATERVLIET AND COHOES N.Y. AS LAID OUT INTO LOTS FOR CHARLES S. ALDRICH" PREPARED BY J.P. THOMAS, C.E. AND FILED IN THE ALBANY COUNTY CLERKS OFFICE MAY 17, 1912 AS MAP NO. 283 CLIMET 2-41
2) "MAP OF QUEDAP PARK REVISED FROM MAP MADE BY L.D. EDDY, SURVEYOR OF JOHN SCHUYLER JR. FARM DATED MARCH 7, 1864", PREPARED BY J.P. THOMAS, DECEMBER 2, 1911 AND FILED IN THE ALBANY COUNTY CLERKS OFFICE MARCH 13, 1912 AS MAP NO. 774 BOOK 86.
3) "D.H. ESTATES INC REAL ESTATE DIVISION COLONIE, N.Y., LAND AND TRACK AGREEMENT, V.3, 12-8, MAP 1-F", DATED MAY 8, 1986.
4) "DELAWARE & HUDSON COMPANY SARATOGA DIVISION VALUATION SECTION 128 MAP SHOWING PROPERTY DEDICATED BY D & H CO. TO TOWN OF COLONIE", PREPARED BY OFFICE OF CHIEF ENGR, DATED FEBRUARY 3, 1962, MAP NO. 6 3604.

TITLE REFERENCE:

1) A COMMITMENT FOR TITLE INSURANCE PREPARED BY ... TITLE INSURANCE ... EFFECTIVE DATE ... BEARING T & C NO. A-81332 AND CONTAINING 7 ITEMS IN SCHEDULE B SECTION 2.

NOTE:

EXISTING UTILITIES AND VEGETATION ARE SHOWN IN THEIR APPROXIMATE LOCATIONS.



LEGEND:

IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
M & S	MAP AND SURVEY
D & S	DEED AND SURVEY
(hatched)	EXISTING BUILDING
YCIRS	YELLOW CAPPED IRON ROD SET 01/23/3N
[301]	STREET ADDRESS
(track)	RAILROAD TRACK
(tree outline)	TREE ROW - APPROXIMATE LIMITS

COLONIE PLANNING BOARD APPROVAL

ROBERT N. STEWART
PLS 49426

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
11-13-03	1	MAP RE-FILED TO CORRECT A DISTANCE ON LOT 849	MKS		

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

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DESIGNED :
DRAFTED : MKS
CHECKED :
PROJ. NO: 03.3188
SCALE : 1"=50'
DATE : NOV. 13, 2003

AMENDMENT #2 OF MBS REALTY ENTERPRISES, INC. SUBDIVISION

OWNER/APPLICANT: RIL REALTY, INC. (F.K.A. MBS REALTY ENTERPRISES, INC.)

849 FIRST STREET WATERVLIET N.Y. 12189

TOWN OF COLONIE — ALBANY COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SB
SHEET 1 OF 1
DWG. NO: 03-291