Work Plan for an Immediate Investigation Work Assignment for Marshall Transformer Site (6-33-019) Town of Marshall, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

EA Engineering, P.C. and Its Affiliate
EA Science and Technology
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(315) 431-4610

September 2007
Revision: FINAL
EA Project No. 14368.17

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Christopher J. Canonica, P.E., Program Manager — 7 September 2007 Date
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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C. and its affiliate EA Science and Technology (EA), to perform an Immediate Investigation Work Assignment (IIWA) at the Marshall Transformer Site (NYSDEC Site No. 6-33-019). The site is located in the Town of Marshall, Oneida County, New York (Figure 1).

The Work Assignment will be conducted under the NYSDEC State Superfund Standby Contract (Work Assignment No. D004438-17). The initial step in the IIWA is preparation of this Work Plan, which describes the anticipated work activities. The elements of this Work Plan were prepared in accordance with the most recent and applicable guidelines and requirements of the NYSDEC and the New York State Department of Health (NYSDOH).

1.2 DESCRIPTION OF WORK TASKS

The following tasks will be completed as part of the site characterization:

- Work Plan Development
- Mobilization and Demobilization
- Site Investigation
- Site Investigation Report.

A brief summary of each activity is provided below. Further details of the field activities are provided in Section 3.

1.2.1 Work Plan Development (Task 1)

A site visit/scoping session was held at the Marshall Transformer Site, on 11 July 2007 in conjunction with the development of this Work Plan. Meeting attendees included representatives from the NYSDEC Division of Environmental Remediation and EA. The site visit was performed in order to become familiar with the area and discuss proposed field work activities.

1.2.2 Mobilization and Demobilization (Task 2)

Mobilization and demobilization will involve the clearing of access routes and any site grubbing in areas targeted for exploratory test pits and soil boring installations. Some trees may need to be removed for planned field activities. In addition to grubbing, a metal detector will be used to identify subsurface anomalies prior to the start of the field activities. A site survey will be performed to include basic site topography and temporary monitoring well locations once the field activities are complete. A high-precision GPS unit will be used to record the locations of test pit areas, soil sampling locations, soil boring locations, and surface soil sample locations.

1.2.3 Environmental Investigation (Task 3)

Environmental sampling will include the collecting of samples from the following media: subsurface soil from test pits and soil borings, surface soil, and groundwater from temporary monitoring wells at various locations throughout the targeted area. The protocol for this effort will follow the NYSDEC Division of Environmental Remediation *Draft DER-10 Technical Guidance for Site Investigation and Remediation*, December 2002.

1.2.4 Site Investigation Report (Task 4)

Field logbooks, soil boring logs, and groundwater purge forms will be used to record data during all onsite work. A dedicated field logbook will be maintained by the Site Manager overseeing the site activities. In addition to the logbook, any and all original sampling forms and purge forms used during the field activities will be submitted to NYSDEC as part of the final report. Field and sampling procedures, including installation of test pits, soil borings, and temporary monitoring wells, will be photo documented. A photolog will be included in the final report.

Upon completion of the field activities, a site investigation report will be prepared and submitted to NYSDEC that includes a summary of field and laboratory analytical data and presents the locations of field samples, well logs, purge logs, and photo logs.

1.3 WORK PLAN ORGANIZATION

This Work Plan is organized into the following sections:

- Section 1: Provides the overall approach and summary of activities that will be performed during the IIWA at the Marshall Transformer Site.
- Section 2: Provides a brief site description and history.
- Section 3: Provides the data types and data uses to be obtained during the field activities; number, types, and locations of samples; rationale underlying the number and location of sampling points.
- Section 4: Provides the procedures for the storage and disposal of investigative derived waste.
- Section 5: Provides the procedures and scope for the site survey and base map preparation.
- Section 6: Provides the procedures for data validation and the determination of usability.

The Project Management Work Plan for this Work Assignment (Schedule 2.11, Minority and Women-owned Business Enterprise utilization, Project Organization, and Schedule) was submitted as a separate deliverable on 7 September 2007.

Two project-specific technical plans were developed for this IIWA and are included as Appendices A and B:

- The specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible are presented in the Quality Assurance Project Plan (QAPP) Addendum (Appendix A). Sample forms to be completed during performance of field activities are provided in the QAPP Addendum Attachment.

- The site-specific hazards and levels of protective measures to be implemented in order to protect the safety and health of field personnel are detailed in the site Health and Safety Plan Addendum (Appendix B).

2. SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Marshall Transformer site is a 2.96-acre rectangular shaped landlocked parcel which was reportedly used for the disposal of transformers containing polychlorinated biphenyls (PCBs) oil in the early 1970's. Concentrations of PCBs in soils have been documented at 78 parts per million (ppm), which is over the NYSDEC standards, guidelines, and criteria. The site lies within a rural setting and is bound on all sides by woodlands (Figure 2). The IIWA will focus on delineation of PCBs in surface soil, subsurface soil and shallow groundwater.

2.2 GEOLOGY AND HYDROGEOLOGY

A review of the geologic map of New York, Hudson - Mohawk Sheet (University of the State of New York, the State Education Department, 1970), indicates that the Marshall Transformer Site lies within the Cobleskill Limestone and Salina Group, which is Upper Silurian in age, and consists of the Cobleskill Limestone, Bertie, Camillus, and Syracuse Formations; which consist of shale, dolostone, and the Brayman shale.

According to the Natural Resources Conservation Service (NRCS) in Oneida County, the site is underlain by the Pittsfield loam, found on 3-8 percent and 15-25 percent slopes. This soil is usually located within drumlinoid ridges, hills, and till plains. The Pittsfield loam is described as being well drained. It has formed from a parent material of calcareous loamy till. The site is also underlain by the Kendaia silt loam, found on 3-8 percent slopes. The Kendaia silt loam is usually located within drumlins and till plains. This soil is described as being somehwat poorly drained. It has formed from a parent material of calcareous loamy till.

3. FIELD ACTIVITIES

This section provides the data types and data uses to be obtained during the field activities along with the number, types, and locations of samples. The field sampling procedures and protocols, as well as the quality assurance/quality control procedures, are provided in the QAPP Addendum (Appendix A).

3.1 SITE GRUBBING ACTIVITIES AND SUBSURFACE ANOMALIES SURVEY

In order to complete the field investigation activities, site grubbing and clearing will be required to allow for access to all areas of concern. The access route to the site traverse a private landowner's property, therefore special considerations will be made to limit the impact to the property and any noticeable impacts will be mitigated upon completion of the field activities. Area that will require grubbing and clearing are illustrated on Figure 3. Grubbing and clearing activities will be performed prior to the start of the field investigation. In addition to grubbing and clearing activities, a subsurface survey will be performed using a Schonstedt GA72 CD Magnetometer to locate any subsurface or surface anomalies within the targeted area. All subsurface and surface anomalies will be marked with a stake/pin flag and noted on a site map.

3.2 ENVIRONMENTAL SAMPLING

The samples will be collected using the following methods: Test pits, soil borings, surface soil sampling, installation and sampling of temporary monitoring wells.

- Up to 20 exploratory test pits will be excavated using a backhoe/trackhoe throughout the site as determined by the NYSDEC. The dimensions of the test pits will be approximately 10-ft long, by 2-ft wide and up to 18-ft deep or the bedrock interface whichever occurs first.

- EA will collect up to eight surface soil samples. Sample areas will be identified in the field by EA personnel based upon field inspections. Areas of concern will be identified and soil samples will be collected from the 0-2 in. interval of the surface area.

- Up to 20 soil borings will be installed using a track mounted geoprobe. Soil borings will be installed using a 2-in. macro-core sampler. Soil borings will be pushed to a depth of approximately 20 ft below ground surface (bgs) or the bedrock interface whichever is encountered first.

- Up to 6 of the 20 soil boring locations will be selected for the installation of 1-inch temporary monitoring wells. Groundwater samples will be collected using a peristaltic pump and dedicated polyethylene tubing or a disposable polyethylene bailer.

- The NYSDOH Generic Community Air Monitoring Plan (CAMP) will be adhered to by

continuous monitoring of VOCs using a PID during all intrusive field activities. Particulate monitoring will be monitored at one down wind location due to the proximity of the nearest potential receptor and residential structure (approximately 800 ft) during all intrusive field activities.

3.2.1 Test Pit Exploration

Up to 20 exploratory test pits will be excavated with the dimensions of approximately 10-ft long, 2-ft wide and up to 18-ft deep or bedrock for the purpose of characterizing and sampling the subsurface soil (Figure 4). During test pit excavation, soils will be removed in 2-ft lifts to distinguish and separate potentially impacted soils (i.e., oils, staining, odors) to be placed on plastic sheets, from non-impacted soils. Soil spoils from the two foot lift intervals will be placed on separate sheets of 6 millimeter polyethylene. If transformer parts are encountered during test pit exploration the parts will be drummed and store onsite. If no evidence of contaminated soils or transformer parts is observed/encountered between 8-10 ft bgs or the bedrock interface, whichever occurs first, the test pit excavation will be terminated. The test pit soil spoils will be backfilled into the originating test pits in 2-ft lifts.

During excavation activities, soil samples will be classified and logged according to the Unified Soil Classification System. Field screening using a photoionization detector (PID) and field observations will be recorded during excavation. A field record of soil types, classification, sampling intervals, PID readings, and other field observations will be recorded on the soil test pit log forms provided in the QAPP Addendum Attachment A. Up to four soil samples will be collected from each test pit and submitted to Life Science Laboratories (LSL) of East Syracuse, New York and analyzed for PCBs by U.S. Environmental Protection Agency (USEPA) Method 8082. Additionally, one sample will be collected from up to 6 of the test pits and analyzed for a full Target Compound List (TCL) suite using USEPA Contract Laboratory Program (CLP) OLM04.2. Analyses will include volatile organic compounds (VOCs) by USEPA Method 8260, semi-volatile organic compounds (SVOCs) by USEPA Method 8270, pesticides/polychlorinated biphenyls by USEPA Method 8081A/8082, Target Analyte List (TAL) metals by USEPA Method 6010. The samples collected will be discrete, and selected from soils that indicate potential impacts during field screenings and observations. If no soils within a test pit have evidence of impact, a composite sample will be collected from representative soils encountered during the excavation.

All soil spoils generated during the exploratory test pit activities will be placed back into the originating test pit.

3.2.2 Surface Soil Sampling

The IIWA will include collection of up to 22 surface soil samples located throughout the site.

The surface soil samples will be collected from 0 to 2-in. intervals using a dedicated stainless steel spoon. The soil samples will be visually inspected and described according to the Unified

Soil Classification System. Twelve discrete surface soil samples will be collected from a 150 ft by 150 ft grid at 50 foot intervals (Figure 5). The remaining surface soil samples will be selected based on visual inspection of the surface area, field screening with a PID, and in conjunction with the approval of the NYSDEC representative. Once the sampling locations have been determined a discrete surface soil sample will be collected from the location. Prior to sampling, the soil samples will be placed in a stainless steel bowl and homogenized using a stainless steel spoon.

To avoid cross-contamination of samples, equipment used during sampling must be clean and free from the residue of previous samples. Any non-dedicated sampling equipment will be cleaned initially and prior to being reused. The following decontamination procedure will be performed between surface soil sampling locations:

- Wash and scrub with low phosphate laboratory grade detergent
- Rinse with deionized water
- Rinse with HNO_3
- Rinse with deionized water
- Rinse with isopropyl alcohol
- Rinse with deionized water
- Air dry
- Wrap in aluminum for transport.

All surface soil samples will be submitted to LSL and analyzed for PCBs by USEPA Method 8082. Four surface soil samples will be submitted for full Target Compound List (TCL) suite using USEPA Contract Laboratory Program (CLP) OLM04.2.

3.2.3 Direct-Push/Geoprobe Soil Boring Installation

Once preliminary analytical results have been received and reviewed a second mobilization to complete soil borings sampling will commence. The purpose of the direct-push/geoprobe evaluation of the overburden at the site is to define the limits and extent of contamination at the site, based on the analytical results from the exploratory test pits and the surface soil sampling activities. It is expected that a total of 20 soil borings will be advanced to a depth of approximately 20 ft bgs or the bedrock interface, whichever occurs first. Locations of the soil borings will be based on the analytical results of the test pit and surface soil samples, and in conjunction with the NYSDEC project manager.

During the direct-push drilling program, subsurface soil samples will be collected continuously from each of the soil borings. Soil samples will be classified and logged according to the Unified Soil Classification System. Field screening using a PID and field observations will be used when selecting soil samples for laboratory analysis. A field record of each soil boring, classification, sampling intervals, PID readings, and other field observations will be recorded on the soil boring log form provided in the QAPP Addendum Attachment A.

Based on the field screening and observations, up to 20 subsurface soil samples will be collected from the 20 soil borings and submitted to LSL in East Syracuse, New York for PCB analysis using USEPA Method 8082. A discrete soil sample will be collected from the most contaminated interval, (i.e., highest PID reading, visually impacted, strong odor) or, if no contamination is evident a representative soil sample from the soil boring will be collected and sent for subsequent laboratory analysis. The selection of subsurface soil samples for laboratory analysis will be made in consultation with the NYSDEC field representative.

Soil borings will be backfilled with bentonite chips to prevent contamination of clean soils as necessary. Drill cuttings exhibiting gross contamination (i.e. visual, olfactory, high PID screening) generated during the direct-push drilling program will be handled in accordance with Section 4 (Storage and Disposal of Waste).

3.2.4 Temporary Monitoring Well Installation

Up to six temporary monitoring wells will be installed to collect groundwater samples. The temporary monitoring wells will be installed at select soil boring locations. It is expected that all of the temporary monitoring well will be installed within the overburden unit and no bedrock wells will be installed at the site. The actual location of the temporary monitoring wells will be directed by the NYSDEC Project Manager. A 1-in. or 2-in. diameter well will be inserted into each open borehole. The wells will be constructed with a 10-ft length of 0.010-slot screen and an appropriate length of Schedule 40 PVC riser to the ground surface. The screen filter pack will consist of Morie # 0 (or equivalent) sandpack and will be brought 2 ft above the top of the screen interval. The remaining area in the borehole will be backfilled with bentonite chips to ground surface.

The temporary monitoring wells will be developed no sooner than 48 hours after installation. All purge water generated during well development will be discharged to the surrounding ground surface.

3.2.5 Temporary Monitoring Well Sampling

Groundwater samples will be collected from the temporary monitoring wells using low-flow sampling protocols one week following well development. Groundwater sampling procedures will include water level measurements, purging, field measurements, and sample collection at each temporary monitoring well location. A copy of the purging and sampling log form used to record well purging, water quality measurements, and sampling flow rates is provided in the QAPP Addendum Attachment A. The objective of the groundwater sampling protocol is to obtain samples that are representative of the localized aquifer so that analytical results reflect the composition of the groundwater as accurately as possible.

Rapid and significant changes can occur in groundwater samples upon exposure to sunlight, temperature, and pressure changes at ground surface. Therefore, groundwater sampling will be conducted in a manner that will minimize interaction of the sample and the surface environment.

The equipment and protocol for collecting groundwater samples by each method are described below.

3.2.6 Groundwater Sampling by Purge Method

3.2.6.1 Purging and Sampling Equipment

Well purging may be performed and groundwater samples will be collected from the temporary monitoring wells using a peristaltic pump and or dedicated polyethylene bailers. Equipment for sampling will include the following:

- Peristaltic pumps and or dedicated polyethylene bailers to be used for purging
- Electronic water level measurement unit with accuracy of 0.01 ft
- Flow measurement device (containers graduated in milliliters) and stop watch
- Water quality meter (Horiba U-22 or similar) with flow-through cell (flushed with distilled water before use at each well) for field measurement of pH, specific conductance, temperature, Eh, dissolved oxygen, and turbidity.

3.2.6.2 Field Analytical Equipment

Field equipment to be used at the site will include a Horiba U-22 water quality meter (or similar) with a flow-through cell, which includes probes for measurement of pH, Eh, turbidity, dissolved oxygen, temperature, and conductivity. Each piece of equipment will be checked by the EA Site Manager to be in proper working order before its use and calibrated as required by the manufacturer. Prior to each use, field analytical equipment probe(s) will be decontaminated. After each use, the instrument will be checked and stored in an area shielded from weather conditions. Instruments will be calibration checked at the beginning of each day of groundwater sampling. The calibration procedures will be recorded in the field log book.

3.2.6.3 Groundwater Sampling Using Low-Flow Sampling Methodology

Prior to the start of the groundwater sampling, water levels will be collected from all of the temporary monitoring wells to prepare a groundwater contour map and evaluate groundwater flow patterns. Water level measurements recorded and analytical results received will be included in the summary report.

Groundwater samples will be collected from the temporary monitoring wells after development has been completed. The following procedures will be used for temporary monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the Health and Safety

Plan and the Health and Safety Plan Addendum. In addition, samplers will use new sampling gloves for the collection of each sample.

- Remove the well cap.
- Obtain PID readings and record them in the field logbook.
- Measure the static water level in the well with an electronic water level indicator. The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual wells to prevent cross-contamination.
- Calculate the volume of water in the well.
- Purge 3-5 well volumes of water from the well, using the method described below. Purged water will be discharged directly to the surrounding ground surface.
  - Pump with a peristaltic pump using new polyethylene tubing dedicated to each well. Set intake slightly below the surface level of the groundwater and start pump; continue to lower the intake line through the well to just above screen depth ensuring that all standing water in the well has been purged.
- Allow field parameters of pH, reduction-oxidation potential (Eh), dissolved oxygen, specific conductivity, and temperature to stabilize before sampling. Purging will be complete if the following conditions are met:
  - Consecutive pH readings are ±0.2 pH units of each other
  - Consecutive water temperatures are ±0.5°C of each other
  - Consecutive measured specific conductance is ±10 percent of each other.

If these parameters are not met after purging a volume equal to 3-5 times the volume of standing water in the well, the EA Project Manager will be contacted to determine the appropriate action(s).

- If the well goes dry before the required volumes are removed, the well may be sampled when it recovers (recovery period up to 24 hours).
- Obtain field measurement of pH, dissolved oxygen, temperature, and specific conductivity and record in on the purging and sampling form. The instruments will be decontaminated between wells to prevent cross-contamination.
- Obtain sample from well with a bailer suspended on new, clean nylon twine. The sampling will be performed with a new bailer dedicated to each individual well.

- Collect the sample aliquot for VOC analysis, first by lowering and raising the bailer slowly to avoid agitation and degassing, and then collect sample aliquots for the TCL suite analysis and carefully pour directly into the appropriate sample bottles. Sample bottles containing appropriate preservative for the parameter to be analyzed will be obtained from the laboratory.

- Place analytical samples in cooler and chill to 4? C. Samples will be delivered to the analytical laboratory within 24 hours.

- Fill out field logbook, sample log sheet, labels, and chain-of-custody forms.

Groundwater samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis. The samples will be labeled, handled, and packaged following the procedures described in the Generic QAPP and QAPP Addendum. Quality assurance/quality control samples will be collected at the frequency detailed in the Generic QAPP, QAPP Addendum, and Table 1.

Half of all groundwater samples will be analyzed by LSL for a full TCL suite using USEPA CLP OLM04.2. Analyses will include VOCs by USEPA Method 8260, SVOCs by USEPA Method 8270, pesticides/polychlorinated biphenyls by USEPA Method 8081A/8082, TAL metals by USEPA Method 6010, and for PCBs by USEPA Method 8082 in accordance with the NYSDEC Analytical Services Protocol.

3.2.7 Laboratory Analysis

Groundwater, surface and subsurface soil samples will be analyzed by an ELAP certified laboratory for PCB's by EPA Method 8082. Ten soil samples from the test pits and surface soil samples will be analyzed by an ELAP certified laboratory for full TCL suite using USEPA CLP OLM04.2. Three of the six groundwater samples will be analyzed for full TCL suite using USEPA Contract CLP OLM04.2, and the remaining three will be analyzed for PCBs by USEPA Method 8082.

3.3 DECONTAMINATION PROCEDURES

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample interval using an alconox rinse and potable water rinse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

3.4 LABORATORY ANALYSIS AND REPORTING

It is anticipated that preliminary analytical results will be available within 2 weeks of receipt at the laboratory, and final results will be provided within the standard turnaround time (i.e., 30 days). All samples collected will be validated by a party independent of the laboratory that performed the analyses and the consultant that performed the field work. A usability analysis will be conducted by a qualified data validator and a Data Validation/Usability Report will be submitted to NYSDEC.

4. STORAGE AND DISPOSAL OF WASTE

EA is responsible for the proper storage, handling, and disposal of investigative derived waste; including personal protective equipment, and solids and liquids generated during the IIWA activities. All drummed materials will be clearly labeled with their contents and origin. All investigative derived waste will be managed in accordance with NYSDEC Department of Remediation Technical and Administrative Guidance Memorandum 4032.

Accordingly, handling and disposal will be as follows:

- Liquids generated from contaminated equipment or a decontamination activity that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers at the point of generation. They will be stored in the staging area.

- Liquid generated during temporary well sampling or a decontamination activity will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

- Soil and rock spoils from drilling operations that do not exhibit visible staining, sheen, or discernable odors will be disposed of onsite.

- Soil and rock spoils from drilling operations and test pit explorations that exhibit grossly visible staining, sheen or discernable odors will be staged onsite until an appropriate treatment/disposal procedure has been determined following completion of the field activities.

- Used protective clothing and equipment that is suspected to be contaminated with hazardous waste will be placed in plastic bags, packed in 55-gal ring-top drums, and transported to the drum staging area.

- Non-contaminated trash and debris will be placed in a trash dumpster and disposed of by a local garbage hauler.

- Non-contaminated protective clothing will be packed in plastic bags and placed in a trash dumpster for disposal by a local garbage hauler.

5. SITE SURVEY AND BASE MAP PREPARATION

This task will be performed by a licensed New York State surveyor and include surveying of temporary monitoring well locations, and preparing a site base map. The elevations of all temporary monitoring well casings should be established to within 0.01 ft based on the National Geodetic Vertical Datum. A permanent reference point should be placed in all interior polyvinyl chloride casings to provide a point to collect future groundwater elevation measurements. Soil boring and soil/sediment sampling locations will be located using a high precision global positioning system unit.

A detailed site plan utilizing recent aerial photography to depict general site features (i.e., buildings, roadways, utility poles, fences, addresses, etc.) within the vicinity of the site will be developed. Contours will be plotted at 2-ft intervals. The site map should include all area important features associated with the investigation (i.e., surface water drainage, areas of dense debris, grubbing areas, access roads). The base map will subsequently be used to accurately plot all sampling locations including soil borings, test pits, temporary monitoring wells, and all other sample locations.

With respect to the site survey and base map preparation, the following assumptions have been made:

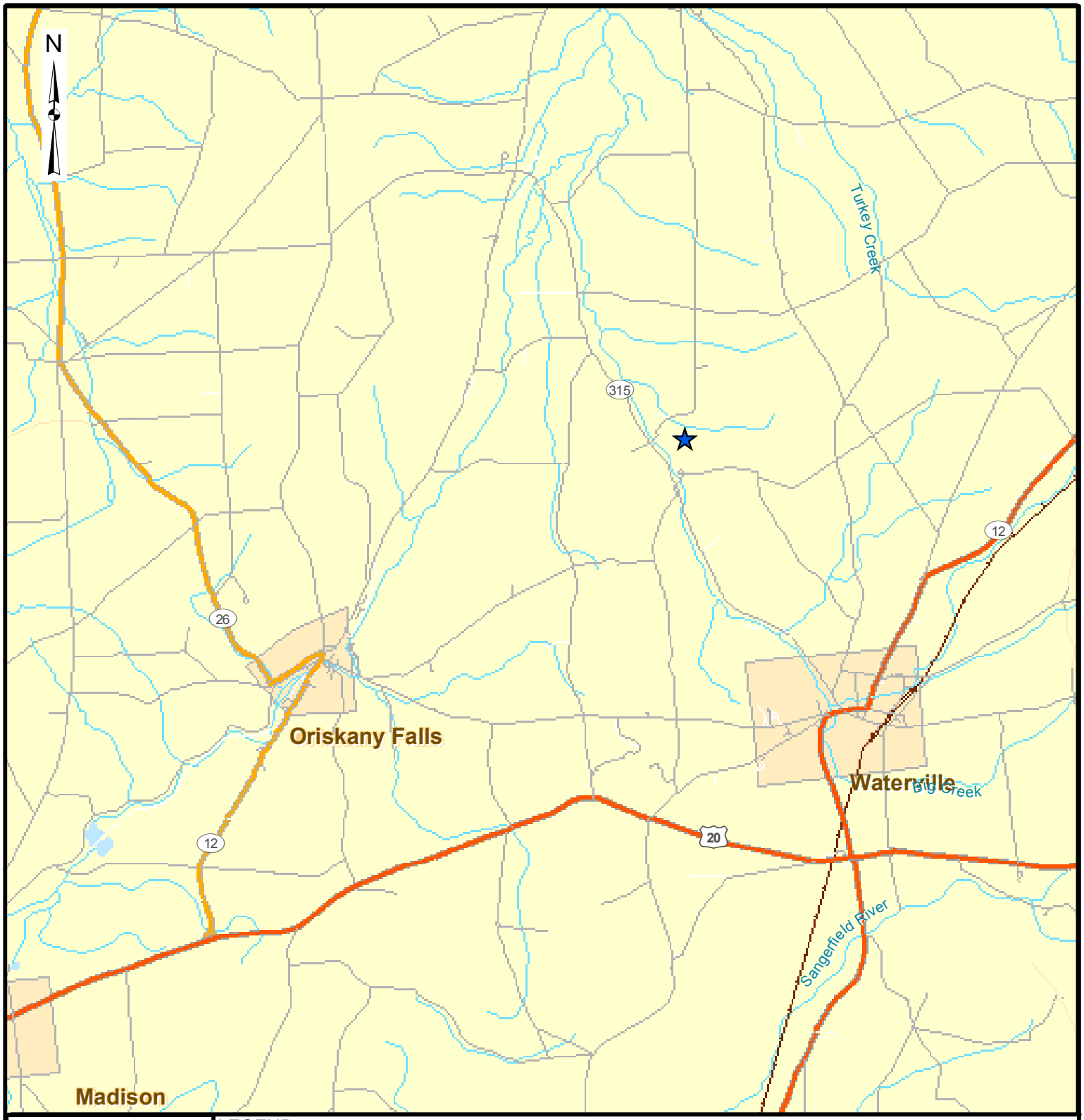
- The estimated survey area will include the whole site boundary. All elevations will be referenced to the North American Vertical Datum 88, UTM Zone 18N. All horizontal locations will be referenced to the North American Datum 83.

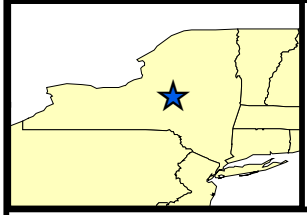
- Three blueline copies of the site base map will be submitted to NYSDEC.

The site map will be provided in AutoCAD, Version 12 or higher, and ArcMap™ 9.1.

6. DATA VALIDATION/DETERMINATION OF USABILITY

The collection and reporting of reliable data is a primary focus of the sampling and analytical activities. Laboratory and field data will be reviewed to determine the limitations, if any, of the data and to assure that the procedures are effective and that the data generated provides sufficient information to achieve the project objectives. A qualified independent third party will evaluate the analytical data according to NYSDEC-Department of Environmental Remediation Data Usability Summary Report guidelines.





LEGEND

★ Site Location

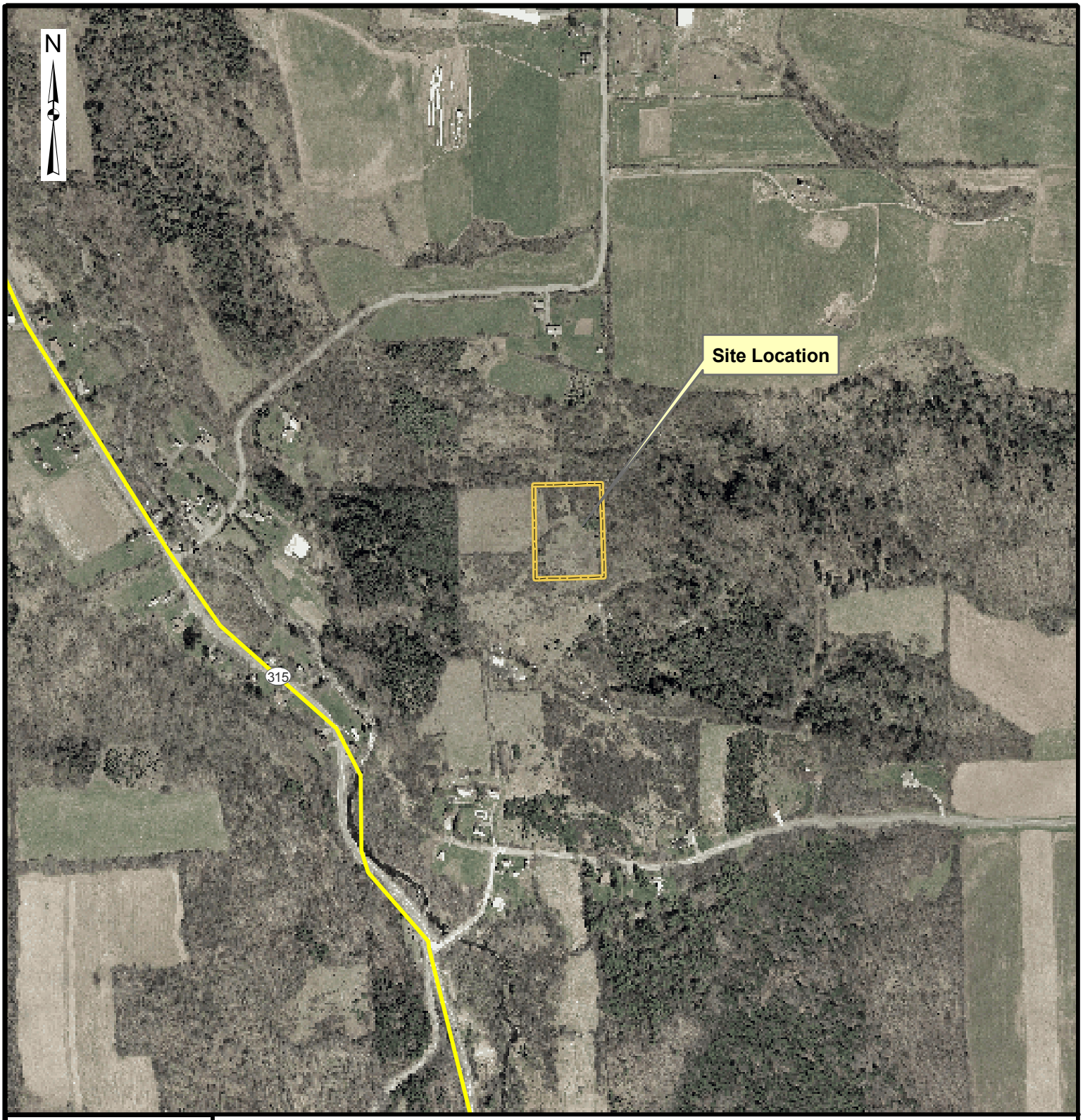
0 0.250.5 1 1.5 2 Miles

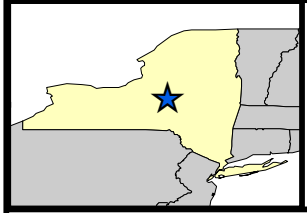
Source: StreetMap USA

MARSHALL TRANSFORMER SITE (6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 1
Site Location Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	DCC	DWE	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE1.MXD





Legend

Estimated Work Area

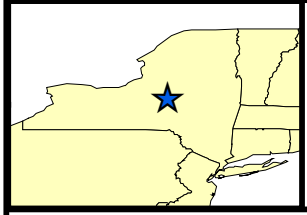
Feet
0 125 250 500 750 1,000

Source: USGS EROS 2005

MARSHALL TRANSFORMER SITE (Site No. 6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 2
Site Setting Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
DWE	CJS	CJS	JAV	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE3.MXD



Legend

Grubbing/Clearing Areas

Estimated Work Area

Feet

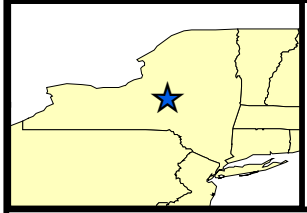
0 25 50 100

Source: USGS EROS 2005

MARSHALL TRANSFORMER SITE (Site No. 6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 3
Proposed Grubbing & Clearing Areas

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
DWE	CJS	CJS	JAV	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE3.MXD



Legend

Preliminary Test Pit Location

Estimated Work Area

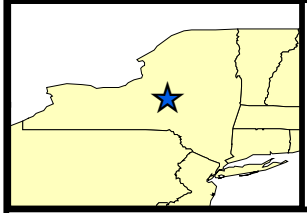
0 25 50 100 Feet

Source: USGS EROS 2005

MARSHALL TRANSFORMER SITE (Site No. 6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 4
Preliminary Test Pit Locations

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
DWE	CJS	CJS	JAV	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE4.MXD



Legend

Estimated Work Area

Surface Soil Sample Locations

Feet
0 25 50 100

Source: USGS EROS 2005

MARSHALL TRANSFORMER SITE (Site No. 6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 5
Proposed Surface Soil Sampling Locations

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	CJS	RSC	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE3.MXD

TABLE 1 IMMEDIATE INVESTIGATION WORK ASSIGNMENT ANALYTICAL PROGRAM

	Sample Matrix	PCB 8082	FULL TCL Suite
SOIL SAMPLING (EXPLORATORY TEST PITS PROGRAM)			
No. of Samples	Soil	60	6
Field Duplicate		3	1
Rinsate Blank [a]/Trip Blank[b]		3/0	1/0
MS/MSD		6	2
Total No. of Analyses		**72**	**10**
SOIL SAMPLING (DIRECT-PUSH DRILLING PROGRAM)			
No. of Samples	Soil	20	---
Field Duplicate		1	---
Rinsate Blank/Trip Blank		3/0	---
MS/MSD		2	---
Total No. of Analyses		**26**	---
SURFACE SOIL SAMPLING			
No. of Samples	Surface Soil	18	4
Field Duplicate		1	---
Rinsate Blank/Trip Blank		1/0	1/0
MS/MSD		2	---
Total No. of Analyses		**22**	**5**
GROUNDWATER SAMPLING			
No. of Samples	Aqueous	3	3
Field Duplicate		---	1
Trip and/or Rinsate Blank [a]		0/0	0/1
MS/MSD		---	2
Total No. of Analyses		**3**	**7**

[a] One rinsate blank per day of sampling with a field device that requires field decontamination.
[b] Trip blanks are required for VOC sampling of aqueous media at a rate of one per sample shipment.

NOTES: TCL = Target Compound List
PCB = Polychlorinated Biphenyls
--- = No Sample Taken
MS/MSD= Matrix Spike/Matrix Spike Duplicate
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.

Appendix A

Quality Assurance Project Plan

Quality Assurance Project Plan Addendum
for an Immediate Investigation Work Assignment
Marshall Transformer Site (6-33-019)
Town of Marshall, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

EA Engineering, P.C., and Its Affiliate
EA Science and Technology
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(315) 431-4610

September 2007
Revision: FINAL
EA Project No. 14368.17

Quality Assurance Project Plan Addendum
for an Immediate Investigation Work Assignment
Marshall Transformer Site (6-33-019)
Town of Marshall, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

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Christopher J. Canonica, P.E., Program Manager — 7 September 2007 (Date)
EA Engineering, P.C.

Robert S. Casey, Project Manager — 7 September 2007 (Date)
EA Science and Technology

September 2007
Revision: FINAL
Project No.: 14368.17

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LIST OF TABLES

1. PURPOSE AND OBJECTIVES

1.1 PURPOSE

A Generic Quality Assurance Project Plan (QAPP) (EA 2006)[1] was developed for field activities performed under the New York State Department of Environmental Conservation (NYSDEC) Standby Contracts D004438 and D004441. This QAPP Addendum was prepared for the Work Plan associated with performance of the Immediate Investigation Work Assignment (IIWA) at the Marshall Transformer Site, located in the Town of Marshall, Oneida County, New York (NYSDEC Site No. 6-33-019). The principal purpose of this QAPP Addendum is to supplement the Generic QAPP with site-specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

1.2 QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

This QAPP Addendum provides site-specific information and standard operating procedures applicable to all work performed at the site that is not included in the Generic QAPP. The information includes definitions and generic goals for data quality and required types and quantities of quality assurance/quality control (QA/QC) samples. The procedures address sampling and decontamination protocols; field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting. The Work Plan contains a site description; and information on site field activities, such as sample locations, sampling procedures, analytical methods, and reporting limits.

1. EA Engineering, P.C. 2006. *Generic Quality Assurance Project Plan for Work Assignments under NYSDEC Contracts D004438 and D004441*. October.

2. PROJECT ORGANIZATION AND RESPONSIBILITIES

While all personnel involved in an investigation and the generation of data are implicitly a part of the overall project management and QA/QC program, certain members of the Project Team have specifically designated responsibilities. Project personnel responsibilities are summarized below.

2.1 EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY

EA Engineering, P.C. and its Affiliate EA Science and Technology (EA) will provide oversight, coordination, health and safety, field support, and evaluation of analytical data. Field support will be provided during subsurface soil sampling. EA also will be responsible for evaluation of analytical test results, which will be submitted to NYSDEC. The EA staff involved in this project are as follows:

- ***Tom Porter, EA Project Quality Assurance/Quality Control (QA/QC) Officer—***The QA/QC Officer will provide guidance on technical matters and review technical documents relating to the project. He will assess the effectiveness of the QA/QC program and recommend modifications when applicable. Additionally, the QA/QC Officer may delegate technical guidance to specially trained individuals under his direction.

- ***Robert Casey, EA Project Manager***—The Project Manager provides overall coordination and preparation of the project within EA. This includes coordination with NYSDEC and New York State Department of Health, budget control, subcontractor performance, implementation of the Quality Assurance Project Plan, and allocation of resources and staffing to implement both the QA/QC program and the site Health and Safety Plan.

- ***David Eck, P.E., EA Project QA/QC Coordinator—***The Project QA/QC Coordinator is responsible for project-specific supervision and monitoring of the QA/QC program. He will ensure that field personnel are familiar with and adhere to proper sampling procedures, field measurement techniques, sample identification, and chain-of-custody procedures. He will coordinate with the analytical laboratory for the receipt of samples and reporting of analytical results, and will recommend actions to correct deficiencies in the analytical protocol or sampling. Additionally, he will prepare QA/QC reports for management review.

- ***Joe Von Uderitz, EA Site Manager***—The Site Manager will serve as the onsite contact person for field investigations and tests. He will be responsible for coordinating the field activities; including inspecting and replacing equipment, preparing daily and interim reports, scheduling sampling, and coordinating shipment and receipt of samples and containers.

The Program Health and Safety Officer is also an integral part of the project implementation team.

- ***Peter Garger, EA Program Health and Safety Officer***—The Program Health and Safety Officer will be responsible for the development, final technical review, and approval of the Health and Safety Plan. In addition, he will provide authorization, if warranted, to modify personal protective equipment requirements based on field conditions. He will also provide final review of all health and safety monitoring records and personal protective equipment changes to ensure compliance with the provisions of the Health and Safety Plan.

2.2 LABORATORY

Laboratory analyses for this project will be performed by Life Science Laboratories, Inc., East Syracuse, New York under a subcontract agreement with EA. The laboratory will have its own provisions for conducting an internal QA/QC review of the data before they are released to EA. The laboratory contract supervisors will contact EA's Project Manager with any sample discrepancies or data concerns.

Hardcopy and electronic data deliverable formatted QA/QC reports will be filed by the analytical laboratories when data are submitted to EA. Corrective actions will be reported to the EA Project Manager along with the QA/QC report (Section 9 of the Generic QAPP). The laboratories may be contacted directly by EA or NYSDEC personnel to discuss QA concerns. EA will act as laboratory coordinator on this project, and all correspondence from the laboratories will be coordinated with EA's Project Manager.

3. SAMPLING RATIONALE, DESIGNATION, AND CONTAINERS

3.1 SAMPLING RATIONALE

The sampling rationale presented for each planned field activity is detailed in the Work Plan for Marshall Transformer Site (EA 2007a)[2]. The rationale and frequency of the QC samples collected is discussed in the Generic QAPP. The remedial investigation laboratory program, illustrated in Table 1, includes the number of samples for each sample location, as well as QA/QC samples. The frequency of QA/QC samples are expressed as a percentage of the total number of samples collected for that matrix. The Generic QAPP also includes analytical methods and reporting limits.

3.2 SAMPLE DESIGNATION

Field samples collected from the site will be assigned a unique sample tracking number. Sample designation will be an alpha-numeric code, which will identify each sample by the site identification, matrix sampled, location number, sequential sample number (or depth of top-of-sample interval for excavation soil samples), and date of collection. Each sampling location will be identified with a two-digit number. Sequential sample numbers at each location for samples will begin with 01 and increase accordingly. For soil borings, the top depth of the sample interval will be used as the sample number. The final portion of the sample tracking number will be the sample date.

The following terminology will be used for the sample identification:

- **Groundwater Samples**
  Temporary Monitoring Wells
  — SITE ID-GW-TMW-01 through 06

- **Soil Samples**
  — SITE ID-TP-01 through 20 – (depth interval) (for test pit samples)
  — SITE ID-SB-01 through 20 – (depth interval) (for soil boring samples)
  — SITE ID-SS-01 through 22 – (depth interval) (for surface soil samples)

2. EA Engineering, P.C. 2007. Work Plan for an Immediate Investigation Work Assignment Marshall Transformer Site (Site No. 6-33-019), Town of Marshall, New York. September.

3.3 SAMPLE CONTAINERS

Table 2 outlines the types of sample containers and preservatives required for sample collection. Please note that liquid waste samples, which exhibit an oily characteristic, do not require acid preservation.

3.4 DATA QUALITY CONTROL OBJECTIVES

Data Quality Control Objectives (DQOs) are qualitative and quantitative statements, which specify the quality of data required to support decisions. DQOs are developed to achieve the level of data quality required for anticipated data use. DQOs are implemented so that, for each task, the data are legally and scientifically defensible. The development of DQOs for a specific site and measurement takes into account project needs; data uses, types, and needs; and data collection. These factors determine whether the quality and quantity of data are adequate for their end use. Sampling protocols have been developed, and sampling documentation and handling procedures have been identified to realize the required data quality.

DQOs are established prior to data collection and are not considered a separate deliverable. Rather, the DQO development process is integrated with the project planning process, and the results are incorporated into the QAPP for the site location. DQOs will be specified for each planned data collection activity. The DQO process results in an effective plan, which details the chosen sampling and analysis options, and the statements of confidence in decisions made during the corrective action process. Confidence statements are possible through the application of statistical techniques to the data.

3.5 FIELD INVESTIGATION DATA QUALITY OBJECTIVES

In order to permit calculation of precision and accuracy for the sampling media, blind field duplicate samples will be collected, analyzed, and evaluated.

Through the submission of field QC samples, the distinction can be made between laboratory problems, sampling technique considerations, sample matrix effects, and laboratory artifacts. To assure media sample quality, all sample collection will be performed in strict accordance with procedures set forth in this QAPP.

Precision will be calculated as relative percent difference if there are only two analytical points, and percent relative standard deviation if there are more than two analytical points. Blind field duplicate sample analyses will provide the means to assess precision.

Quality will be assured through the implementation of the structured and coherent QAPP, defining characterization, and pre-sampling location inventory. This QAPP has been designed so that the appropriate numbers of samples for each location of interest are obtained for analysis. While 100 percent quality is the goal, it must be recognized that unforeseen events may result in the generation of some data that may not be acceptable for use.

Currently published analytical methods have been identified for the analysis of the collected samples, so that the data generated remain comparable to any previous or future generated data. EA will use an analytical laboratory with a demonstrated proficiency in the analysis of similar samples using the referenced methods. In addition, samples will be collected using documented procedures to ensure consistency of effort and reproducibility, if necessary.

3.6 LABORATORY DATA QUALITY OBJECTIVES

The analytical laboratory will demonstrate analytical precision and accuracy by the analysis of various QC samples (i.e., laboratory duplicates, spike samples, matrix spike duplicates, and laboratory control samples). Precision, as well as instrument stability, also will be demonstrated by comparison of calibration response factors from the initial calibration to that of the continuing calibrations. Precision will be presented as relative percent difference, relative standard deviation, or percent difference, whichever is appropriate for the number and type of QC samples analyzed. Laboratory accuracy will be evaluated by the addition of surrogate and matrix spike compounds, and will be presented as percent recovery. Laboratory blanks also can be used to demonstrate the accuracy of the analyses and possible effects from laboratory artifact contamination.

4. ANALYTICAL LABORATORY

The data collected during this investigation will be forwarded to NYSDEC for review.

All groundwater and soil samples will be submitted to Life Science Laboratories, Inc., East Syracuse, New York. The laboratory is a New York State Department of Health, Environmental Laboratory Approval Program-certified, meeting specifications for documentation, data reduction, and reporting. Data deliverables will be in accordance with NYSDEC Analytical Services Protocol Category B electronic data deliverable.

5. ANALYTICAL TEST PARAMETERS

This QAPP Addendum will require the analysis of soil and groundwater samples using U.S. Environmental Protection Agency (USEPA) Method 8082 and full Target Compound List (TCL) suite using USEPA Contract Laboratory Program (CLP) OLM04.2. Analyses will include volatile organic compounds (VOCs) by USEPA Method 8260, semi-volatile organic compounds (SVOCs) by USEPA Method 8270, pesticides/polychlorinated biphenyls by USEPA Method 8081A/8082, Target Analyte List (TAL) metals by USEPA Method 6010. Compound lists for each analytical method are included in the Generic QAPP.

6. ANALYTICAL DATA VALIDATION

The laboratories will review data prior to release from the laboratories. Objectives for review are in accordance with the QA/QC objectives stated in the Generic QAPP. The laboratories are required to evaluate their ability to meet these objectives. Outlying data will be flagged in accordance with laboratory standard operating procedures, and corrective action will be taken to rectify the problem.

In order to ensure the validity of analytical data generated by a project, it will be validated by Environmental Data Services, Inc. who is independent from the analysts and the project. The Generic QAPP addresses implementation of independent validation.

TABLE 1 IMMEDIATE INVESTIGATION WORK ASSIGNMENT ANALYTICAL PROGRAM

	Sample Matrix	PCB 8082	FULL TCL Suite
SOIL SAMPLING (EXPLORATORY TEST PITS PROGRAM)			
No. of Samples	Soil	60	6
Field Duplicate		3	1
Rinsate Blank [a]/Trip Blank[b]		3/0	1/0
MS/MSD		6	2
Total No. of Analyses		**72**	**10**
SOIL SAMPLING (DIRECT-PUSH DRILLING PROGRAM)			
No. of Samples	Soil	20	---
Field Duplicate		1	---
Rinsate Blank/Trip Blank		3/0	---
MS/MSD		2	---
Total No. of Analyses		**26**	---
SURFACE SOIL SAMPLING			
No. of Samples	Surface Soil	18	4
Field Duplicate		1	---
Rinsate Blank/Trip Blank		1/0	1/0
MS/MSD		2	---
Total No. of Analyses		**22**	**5**
GROUNDWATER SAMPLING			
No. of Samples	Aqueous	3	3
Field Duplicate		---	1
Trip and/or Rinsate Blank [a]		0/0	0/1
MS/MSD		---	2
Total No. of Analyses		**3**	**7**

[a] One rinsate blank per day of sampling with a field device that requires field decontamination.
[b] Trip blanks are required for VOC sampling of aqueous media at a rate of one per sample shipment.

NOTES: TCL = Target Compound List
PCB = Polychlorinated Biphenyls
--- = No Sample Taken
MS/MSD= Matrix Spike/Matrix Spike Duplicate
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.

TABLE 2 SAMPLE CONTAINERS, PRESERVATION, AND HOLDING TIMES

Parameter	Matrix	Container Type/Size	Sample Volume	Preservation	Maximum Holding Time from Verifiable Time of Sample Receipt
Target Compound List volatile organic compounds	Water	Two 40-mL glass vials with Teflon-lined Septa	80 mL	No headspace, cool 4°C HCl	10 days
Target Compound List volatile organic compounds	Soil	One 125-mL wide-mouth glass jar with Teflon-lined cap	8 oz.	Minimize headspace, cool 4°C	10 days
Target Compound List semi-volatile organic compounds	Water	One glass amber liters	1 L	None, cool 4°C	5 days [(a)], 40 days [(b)]
Target Compound List semi-volatile organic compounds	Soil	One 125-mL wide-mouth glass jar with Teflon-lined cap	8 oz.	None, cool 4°C	10 days [(a)], 40 days [(b)]
Pesticides/Polychlorinated Biphenyls (PCBs)	Water	One glass amber liter	1 L		5 days [(a)], 40 days [(b)]
Pesticides/Polychlorinated Biphenyls (PCBs)	Soil	One 125-mL wide-mouth glass jar with Teflon-lined cap	8 oz.	None, cool 4°C	10 days [(a)], 40 days [(b)]
Target Analyte List Metals	Water	Polyethylene	500 mL	HNO_3 to pH<2	180 days
Target Analyte List Metals	Soil	One 125-mL wide-mouth glass jar with Teflon-lined cap	8 oz.	None, cool 4°C	180 days
PCBs	Water	One glass amber liter	1 L	None, cool 4°C	5 days [(a)], 40 days [(b)]
PCBs	Soil	One 125-mL wide-mouth glass jar with Teflon-lined cap	8 oz.	None, cool 4°C	10 days [(a)], 40 days [(b)]

Notes:

(a) The extraction must be performed within the time listed above from the time of collection.

(b) Analysis within 40 days of sample extraction date.

Attachment A

Field Forms

Exploratory Test Pit Log Form

EA Engineering P.C. and Its Affiliate, EA Science and Technology

Test Pit Log

Project:	***Site Location:***	***Date:***
Drilling Company:	***Driller:***	***Geologist:***
Size and Types of Drilling and Sampling Equipment:	***Hole ID:***	
Date Started:	***Date Completed:***	
Groundwater Encountered (ft bgs):	***Depth to Bedrock (ft bgs):***	
Total Depth of Hole (ft bgs):	***Disposition of Hole:***	

Depth	*PID Reading (ppm)*	*Description of Material*	*Samples Collected*	*Recovery*

Comments and Notes:

FIELD BORING LOG FORM

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	Client:	Location:
14368.17	New York State Department of Environmental Conservation	Marshall, NY - Marshall Transformer

Drilling Method:	Soil Boring Number:
Sampling Method:	Sheet 1 of

Water Lev.					Drilling Start	Drilling Finish
Time						

Blow Counts (140-lb)	Feet Drvn/Ft. Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	Surface Conditions: / Weather: / Temperature:
				0			
				1			
				2			
				3			
				4			
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

Logged by: _____ Date: _____

Drilling Contractor: _____ Driller: _____

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	**EA Personnel:**	**Client:** NYSDEC
Location: Town of Marshall, New York	**Well Condition:**	**Weather:**
Sounding Method: WLI	**Gauge Date:**	**Measurement Ref:** top of casing
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**

Purge Date:	**Purge Time:**
Purge Method:	**Field Technician:**

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)

Total Quantity of Water Removed (gal): _____ **Sampling Time:** _____
Samplers: _____ **Split Sample With:** _____
Sampling Date: _____ **Sample Type:** _____

COMMENTS AND OBSERVATIONS: _____

Appendix B

Health and Safety Plan Addendum

Health and Safety Plan Addendum
for an Immediate Investigation Work Assignment
Marshall Transformer (6-33-019)
Town of Marshall, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

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September 2007
Revision: FINAL
EA Project No. 14368.17

Health and Safety Plan Addendum
for an Immediate Investigation Work Assignment
Marshall Transformer (6-33-019)
Town of Marshall, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

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7 September 2007
Christopher J. Canonica, P.E., Program Manager — Date
EA Engineering, P.C.

7 September 2007
Robert S. Casey, Project Manager — Date
EA Science and Technology

September 2007
Revision: FINAL
EA Project No.: 14368.17

CONTENTS

LIST OF FIGURES

1. INTRODUCTION

1.1 GENERAL

A Generic Health and Safety Plan (HASP) (EA 2006)[1] was developed for field activities performed under the New York State Department of Environmental Conservation (NYSDEC) Standby Contracts D004438 and D004441. This HASP Addendum is to supplement the Generic HASP with site-specific information to protect the health and safety of personnel while performing field activities to complete the Immediate Investigation Work Assignment (IIWA) for the Marshall Transformer Site (NYSDEC Site No. 6-33-019), Town of Marshall, Oneida County, New York (Figure 1). This HASP Addendum describes the safety organization, procedures, and protective equipment that have been established based on an analysis of potential physical, chemical, and biological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential for accidents or injuries to occur. One copy of the Generic HASP and this HASP Addendum will be maintained for use during the scheduled field sampling effort. The copies will be made available for site use and employee review at all times.

This HASP Addendum addresses regulations and guidance practices set forth in the Occupational Safety and Health Administration (OSHA) Standards for Construction Industry, 29 Code of Federal Regulations (CFR) 1926, including 29 CFR 1926.65, *Hazardous Waste Operations and Emergency Response* and 29 CFR 1926.59, *Hazardous Communications*.

The following are provided as attachments:

- Attachment A: Worker Training and Physical Examination Record
- Attachment B: Health and Safety Plan Review Record
- Attachment C: Site Entry and Exit Log
- Attachment D: Accident Investigation Report
- Attachment E: Emergency Telephone Numbers and Hospital Directions
- Attachment F: Emergency Equipment Available Onsite
- Attachment G: Map to Hospital
- Attachment H: Personal Protective Equipment Activity Record
- Attachment I: NYSDOH Generic Community Air Monitoring Plan

NOTE: This site-specific HASP Addendum should be left open to display Attachment E (Emergency Telephone Numbers and Hospital Directions) and made available to all site personnel in a conspicuous location for the duration of field activities in the event of an emergency.

1. EA Engineering, P.C. 2006. *Generic Health and Safety Plan for Work Assignments under NYSDEC Contracts D004438 and D004441*. June.

1.2 SITE LOCATION

The Marshall Transformer Site is a fallow and wooded plot of land located to the east of Forge Hollow, in the Town of Marshall, Oneida County, New York. The site is a 2.96 acre rectangular shaped landlocked parcel. The site lies within a predominately rural area with various residential properties nearby.

1.3 POLICY STATEMENT

EA will take every reasonable step to provide a safe and healthy work environment and to eliminate or control hazards in order to minimize the possibility of injuries, illnesses, or accidents to site personnel. EA and EA subcontractor employees will be familiar with the Generic HASP and this HASP Addendum for each of the project activities they perform. Prior to entering the site, the Generic HASP and this HASP Addendum will be reviewed and an agreement to comply with the requirements will be signed by EA personnel, subcontractors, and visitors (Attachment B).

Operational changes that could affect the health and safety of the site personnel, community, or environment will not be made without approval from EA's Project Manager and Program Health and Safety Officer. This document will be periodically reviewed to ensure that it is current and technically correct. Any changes in site conditions and/or the scope of work will require a review and modification to the HASP Addendum. Such changes will be documented in the form of a revision to this addendum.

2. KEY PERSONNEL

The following table contains information on key project personnel:

Title	Name	Telephone No.
Officer-in-Charge	Richard Waterman	508-485-2982
Program Health and Safety Officer	Peter Garger, CIH	410-771-4950
Program Manager	Chris Canonica, P.E.	315-431-4610
Quality Assurance/Quality Control Officer	Tom Porter, P.G.	315-431-4610
Project Manager	Robert Casey	315-431-4610
Quality Assurance/Quality Control Coordinator	David Eck, P.E.	315-431-4610
Site Manager/Site Health and Safety Officer	Joe Von Uderitz	315-431-4610
NYSDEC Project Manager	William Bennett	518-402-9662

3. SCOPE OF WORK

This HASP Addendum was developed to designate and define site-specific health and safety protocols applicable to project activities. It is to be implemented and followed during field activities at the Marshall Transformer Site, Town of Marshall, New York. The scope of work covered by this HASP Addendum includes:

- Site grubbing and clearing
- Test pit excavations
- Surface soil sampling
- Soil boring installation and subsurface soil sampling
- Temporary monitoring well installation
- Groundwater sampling
- Decontamination.

Each of these activities is summarized below; additional detail for each activity is provided in the Work Plan for an Immediate Investigation Work Assignment Marshall Transformer Site.

The NYSDOH Generic Community Air Monitoring Plan (CAMP) will be adhered to by continuous monitoring of VOCs using a PID during all intrusive field activities. Particulate monitoring will be monitored at one down wind location due to the proximity of the nearest potential receptor and residential structure (approximately 800 ft) during all intrusive field activities.

3.1 SITE GRUBBING ACTIVITIES AND SUBSURFACE ANOMALIES SURVEY

In order to complete the field investigation activities, site grubbing and clearing will be required to allow for access to all areas of concern. The access route to the site traverse a private landowner's property, therefore special considerations will be made to limit the impact to the property and any noticeable impacts will be mitigated upon completion of the field activities. Area that will require grubbing and clearing are illustrated on Figure 3. Grubbing and clearing activities will be performed prior to the start of the field investigation. In addition to grubbing and clearing activities, a subsurface survey will be performed using a Schonstedt GA72 CD Magnetometer to locate any subsurface or surface anomalies within the targeted area. All subsurface and surface anomalies will be marked with a stake/pin flag and noted on a site map.

3.2 TEST PIT EXPLORATION

Up to 20 exploratory test pits will be excavated with the dimensions of approximately 10-ft long, 2-ft wide and up to 18-ft deep or bedrock for the purpose of characterizing and sampling the subsurface soil (Figure 4). During test pit excavation, soils will be removed in 2-ft lifts to distinguish and separate potentially impacted soils (i.e., oils, staining, odors) to be placed on

plastic sheets, from non-impacted soils. Soil spoils from the two foot lift intervals will be placed on separate sheets of 6 millimeter polyethylene. If transformer parts are encountered during test pit exploration the parts will be drummed and store onsite. If no evidence of contaminated soils or transformer parts is observed/encountered between 8-10 ft bgs or the bedrock interface, whichever occurs first, the test pit excavation will be terminated. The test pit soil spoils will be backfilled into the originating test pits in 2-ft lifts.

All soil spoils generated during the exploratory test pit activities will be placed back into the originating test pit.

3.3 SURFACE SOIL SAMPLING

The surface soil samples will be collected from 0 to 2-in. intervals using a dedicated stainless steel spoon. The soil samples will be visually inspected and described according to the Unified Soil Classification System. Twelve discrete surface soil samples will be collected from a 150 ft by 150 ft grid at 50 foot intervals (Figure 5). The remaining surface soil samples will be selected based on visual inspection of the surface area, field screening with a PID, and in conjunction with the approval of the NYSDEC representative. Once the sampling locations have been determined a discrete surface soil sample will be collected from the location. Prior to sampling, the soil samples will be placed in a stainless steel bowl and homogenized using a stainless steel spoon.

To avoid cross-contamination of samples, equipment used during sampling must be clean and free from the residue of previous samples. Any non-dedicated sampling equipment will be cleaned initially and prior to being reused. The following decontamination procedure will be performed between surface soil sampling locations:

- Wash and scrub with low phosphate laboratory grade detergent
- Rinse with deionized water
- Rinse with HNO_3
- Rinse with deionized water
- Rinse with isopropyl alcohol
- Rinse with deionized water
- Air dry
- Wrap in aluminum for transport.

3.4 SOIL BORING INSTALLATION AND SUBSURFACE SOIL SAMPLING

Once preliminary analytical results have been received and reviewed a second mobilization to complete soil borings sampling will commence. The purpose of the direct-push/geoprobe evaluation of the overburden at the site is to define the limits and extent of contamination at the site, based on the analytical results from the exploratory test pits and the surface soil sampling activities. It is expected that a total of 20 soil borings will be advanced to a depth of

approximately 20 ft bgs or the bedrock interface, whichever occurs first. Locations of the soil borings will be based on the analytical results of the test pit and surface soil samples, and in conjunction with the NYSDEC project manager.

During the direct-push drilling program, subsurface soil samples will be collected continuously from each of the soil borings. Soil samples will be classified and logged according to the Unified Soil Classification System. Field screening using a PID and field observations will be used when selecting soil samples for laboratory analysis. A field record of each soil boring, classification, sampling intervals, PID readings, and other field observations will be recorded on the soil boring log form provided in the QAPP Addendum Attachment A.

Soil borings will be backfilled with bentonite chips to prevent contamination of clean soils as necessary. Drill cuttings exhibiting gross contamination (i.e. visual, olfactory, high PID screening) generated during the direct-push drilling program will be handled in accordance with Section 4 (Storage and Disposal of Waste) of the Work Plan for an IIWA Marshall Transformer Site.

3.5 TEMPORARY MONITORING WELL INSTALLATION

Up to six temporary monitoring wells will be installed to collect groundwater samples. Up to six temporary monitoring wells will be installed to collect groundwater samples. The temporary monitoring wells will be installed at select soil boring locations. It is expected that all of the temporary monitoring well will be installed within the overburden unit and no bedrock wells will be installed at the site. The actual location of the temporary monitoring wells will be directed by the NYSDEC Project Manager. A 1-in. diameter well will be inserted into each open borehole. The wells will be constructed with a 10-ft length of 0.010-slot screen and an appropriate length of Schedule 40 PVC riser to the ground surface. The screen filter pack will consist of Morie # 0 (or equivalent) sandpack and will be brought 2 ft above the top of the screen interval. The remaining area in the borehole will be backfilled with bentonite chips to ground surface.

3.6 GROUNDWATER SAMPLING

Groundwater samples will be collected from the temporary monitoring wells using low-flow sampling protocols one week following well development. Groundwater sampling procedures will include water level measurements, purging, field measurements, and sample collection at each temporary monitoring well location. A copy of the purging and sampling log form used to record well purging, water quality measurements, and sampling flow rates is provided in the QAPP Addendum Attachment A. The objective of the groundwater sampling protocol is to obtain samples that are representative of the localized aquifer so that analytical results reflect the composition of the groundwater as accurately as possible.

Rapid and significant changes can occur in groundwater samples upon exposure to sunlight, temperature, and pressure changes at ground surface. Therefore, groundwater sampling will be

conducted in a manner that will minimize interaction of the sample and the surface environment. The equipment and protocol for collecting groundwater samples by each method are described below.

3.6.1 Groundwater Sampling by Purge Method

3.6.1.1 Purging and Sampling Equipment

Well purging may be performed and groundwater samples will be collected from the temporary monitoring wells using a peristaltic pump and or dedicated polyethylene bailers. Equipment for sampling will include the following:

- Peristaltic pumps and or dedicated polyethylene bailers to be used for purging
- Electronic water level measurement unit with accuracy of 0.01 ft
- Flow measurement device (containers graduated in milliliters) and stop watch
- Water quality meter (Horiba U-22 or similar) with flow-through cell (flushed with distilled water before use at each well) for field measurement of pH, specific conductance, temperature, Eh, dissolved oxygen, and turbidity.

3.6.1.2 Field Analytical Equipment

Field equipment to be used at the site will include a Horiba U-22 water quality meter (or similar) with a flow-through cell, which includes probes for measurement of pH, Eh, turbidity, dissolved oxygen, temperature, and conductivity. Each piece of equipment will be checked by the EA Site Manager to be in proper working order before its use and calibrated as required by the manufacturer. Prior to each use, field analytical equipment probe(s) will be decontaminated. After each use, the instrument will be checked and stored in an area shielded from weather conditions. Instruments will be calibration checked at the beginning of each day of groundwater sampling. The calibration procedures will be recorded in the field log book.

3.6.1.3 Groundwater Sampling Using Low-Flow Sampling Methodology

Prior to the start of the groundwater sampling, water levels will be collected from all of the temporary monitoring wells to prepare a groundwater contour map and evaluate groundwater flow patterns. Water level measurements recorded and analytical results received will be included in the summary report.

Groundwater samples will be collected from the temporary monitoring wells after development has been completed. The following procedures will be used for temporary monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the Health and Safety Plan and the Health and Safety Plan Addendum. In addition, samplers will use new sampling gloves for the collection of each sample.

- Remove the well cap.

- Obtain PID readings and record them in the field logbook.

- Measure the static water level in the well with an electronic water level indicator. The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual wells to prevent cross-contamination.

- Calculate the volume of water in the well.

- Purge 3-5 well volumes of water from the well, using the method described below. Purged water will be discharged directly to the surrounding ground surface.

  — Pump with a peristaltic pump using new polyethylene tubing dedicated to each well. Set intake slightly below the surface level of the groundwater and start pump; continue to lower the intake line through the well to just above screen depth ensuring that all standing water in the well has been purged.

- Allow field parameters of pH, reduction-oxidation potential (Eh), dissolved oxygen, specific conductivity, and temperature to stabilize before sampling. Purging will be complete if the following conditions are met:

  — Consecutive pH readings are ±0.2 pH units of each other

  — Consecutive water temperatures are ±0.5°C of each other

  — Consecutive measured specific conductance is ±10 percent of each other.

If these parameters are not met after purging a volume equal to 3-5 times the volume of standing water in the well, the EA Project Manager will be contacted to determine the appropriate action(s).

- If the well goes dry before the required volumes are removed, the well may be sampled when it recovers (recovery period up to 24 hours).

- Obtain field measurement of pH, dissolved oxygen, temperature, and specific conductivity and record in on the purging and sampling form. The instruments will be decontaminated between wells to prevent cross-contamination.

- Obtain sample from well with a bailer suspended on new, clean nylon twine. The sampling will be performed with a new bailer dedicated to each individual well.

- Collect the sample aliquot for VOC analysis, first by lowering and raising the bailer slowly to avoid agitation and degassing, and then collect sample aliquots for the TCL suite analysis and carefully pour directly into the appropriate sample bottles. Sample bottles containing appropriate preservative for the parameter to be analyzed will be obtained from the laboratory.

- Place analytical samples in cooler and chill to 4? C. Samples will be delivered to the analytical laboratory within 24 hours.

- Fill out field logbook, sample log sheet, labels, and chain-of-custody forms.

Groundwater samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis. The samples will be labeled, handled, and packaged following the procedures described in the Generic QAPP and QAPP Addendum. Quality assurance/quality control samples will be collected at the frequency detailed in the Generic QAPP and QAPP Addendum.

3.7 DECONTAMINATION PROCEDURES

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample interval using an Alconox rinse and potable water rinse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

4. POTENTIAL HAZARD ANALYSIS

Based upon the above field activities, the following potential hazard conditions may be anticipated:

- The use of mechanical equipment such as geoprobes, backhoe/trackhoe, and chain saws can create a potential for crushing and pinching hazards due to movement and positioning of the equipment: movement of lever arms and hydraulics; entanglement of clothing and appendages in exposed drives and augers; and impact of steel tools, masts, and cables should equipment rigging fail or other structural failures occur during hydraulic equipment operation and drilling mast extension and operation. Heavy equipment work must be conducted only by trained, experienced personnel. If possible, personnel must remain outside the turning radius of large, moving equipment. At a minimum, personnel must maintain visual contact with the equipment operator. When not operational, equipment must be set and locked so that it cannot be activated, released, dropped, etc.

- Equipment can be energized due to contact with overhead or underground electrical lines, utilities impaired by excavation of communication or potable/wastewater lines, or a potential for fire or explosion may occur due to excavation of below ground propane/ natural gas lines. Prior to commencement of invasive operations, a drilling/excavation permit will be obtained and the area will be inspected and flagged. Personnel should be aware that although an area may be cleared, it does not mean that unanticipated hazards will not appear. Safe distances will be maintained from live electrical equipment as specified in Generic HASP. Workers should always be alert for unanticipated events such as snapping cables, digging into unmarked underground utilities, etc. Such occurrences should prompt involved individuals to halt work immediately and take appropriate corrective measures to gain control of the situation.

- Work around large equipment often creates excessive noise. Noise can cause workers to be startled, annoyed, or distracted; can cause physical damage to the ear, pain, and temporary and/or permanent hearing loss; and can interfere with communication. If workers are subjected to noise exceeding an 8-hour time-weighted average sound level of 85 dBA, hearing protection will be selected with an appropriate noise reduction rating to comply with 29 CFR 1910.95 and to reduce noise below levels of concern.

- Personnel may be injured during physical lifting and handling of heavy equipment, construction materials, or containers. Additionally, personnel may encounter slip, trip, and fall hazards associated with excavations, manways, and construction debris and materials. Precautionary measures should be taken in accordance with the Generic HASP and this HASP Addendum.

- Field operations conducted during the winter months can impose excessive heat loss to personnel conducting strenuous activities during unseasonably cold weather days and can impose cold-related illness symptoms during unseasonably cold weather days, or when wind chill is high. In addition, heavy rains, electrical storms, and high winds may create extremely dangerous situations for employees.

- Entry into a confined space in support of this project is forbidden. However, it is not anticipated that confined space entry will be required during the completion of the field activities.

- Field investigation activities intended to define potential sources of environmental contamination often require employees to be in direct proximity or contact with hazardous substances. Employees may be exposed through inhalation of toxic dusts, vapors, or gases. Normal dust particulates from surficial soil may have adsorbed or absorbed toxic solvents, petroleum compounds, or toxic metal salts or metal particulates. Air monitoring equipment will be used to monitor airborne organic vapors and particulates. Water collected during well development and groundwater sampling activities may also contain toxic vapors, liquids, and gases and be inhaled during normal operations, or may be splashed onto the skin or eyes. Ingestion of toxic materials contained in dusts or particulates can be ingested if eating, smoking, drinking, and gum chewing are permitted prior to personnel washing their hands and face or removing contaminated work clothing and personal protective equipment. Some chemicals may be absorbed directly through the skin. Personal protective equipment, properly designed for the chemicals of concern, will always be provided and worn when a potential for skin contact is present.

5. PERSONAL PROTECTIVE EQUIPMENT

Based upon currently available information, it is anticipated that Level D protection will be required for currently anticipated conditions and activities. If at any time the sustained level of total organic vapors in the worker breathing zone exceeds 5 parts per million (ppm) above background, site workers will evacuate the area and the condition will be brought to the attention of the site Health and Safety Officer. Efforts will then be undertaken to mitigate the source of the vapors. Once the sustained level of total organic vapors has decreased to below 5 ppm above background, site workers will be allowed to continue activities at the direction of the site Health and Safety Officer. If the downwind particulate monitor exceeds 150 mcg/m^3 during the field investigation activities dust suppression techniques will be implemented to limit airborne dust migration.

The personal protective equipment components for use during this project are detailed in the Generic HASP. The components of Level D personal protective equipment are summarized below.

5.1 LEVEL D PERSONAL PROTECTIVE EQUIPMENT

Level D will be worn for initial entry onsite and initially for all activities and will consist of the following:

- Coveralls or appropriate work clothing
- Steel-toe, steel-shank safety boots/shoes
- Hard hats (when overhead hazards are present or as required by the site Health and Safety Officer)
- Chemical resistant gloves (nitrile/neoprene) when contact with potentially contaminated soil or water is expected
- Safety glasses with side shields
- Hearing protectors (during drilling or other operations producing excessive noise)
- Boot covers (optional unless in contact with potentially contaminated soil or water)
- Polycoated coveralls (when contact with contaminated soil and water is anticipated, e.g., when surging/pumping wells and pressure-washing equipment).

Insulated clothing, hats, etc. must be worn when temperatures or wind chill fall below 40°F.

6. SITE CONTROL AND SECURITY

Only authorized personnel will be permitted to conduct field activities. Authorized personnel include those who have completed hazardous waste operations initial training, as defined under OSHA Regulation 29 CFR 1910.120/29 CFR 1926.65, have completed their training or refresher training within the past 12 months, and have been certified by a physician as fit for hazardous waste operations.

6.1 SAFE WORK PRACTICES

Safe work practices that will be followed by site workers include, but are not limited to, the following rules:

- Working before or after daylight hours without special permission is prohibited.
- Do not enter restricted or posted areas without permission from the site Health and Safety Officer.
- Smoking is limited to designated areas.
- Possessing, using, purchasing, distributing, or having controlled substances in their system throughout the day or during meal breaks is prohibited.
- Consuming or possessing alcoholic beverages is prohibited.
- Good housekeeping – employees will be instructed about housekeeping throughout field activities.
- Sitting or kneeling in areas of obvious contamination is prohibited.
- Avoid overgrown vegetation and tall grass areas.

6.2 DAILY STARTUP AND SHUTDOWN PROCEDURES

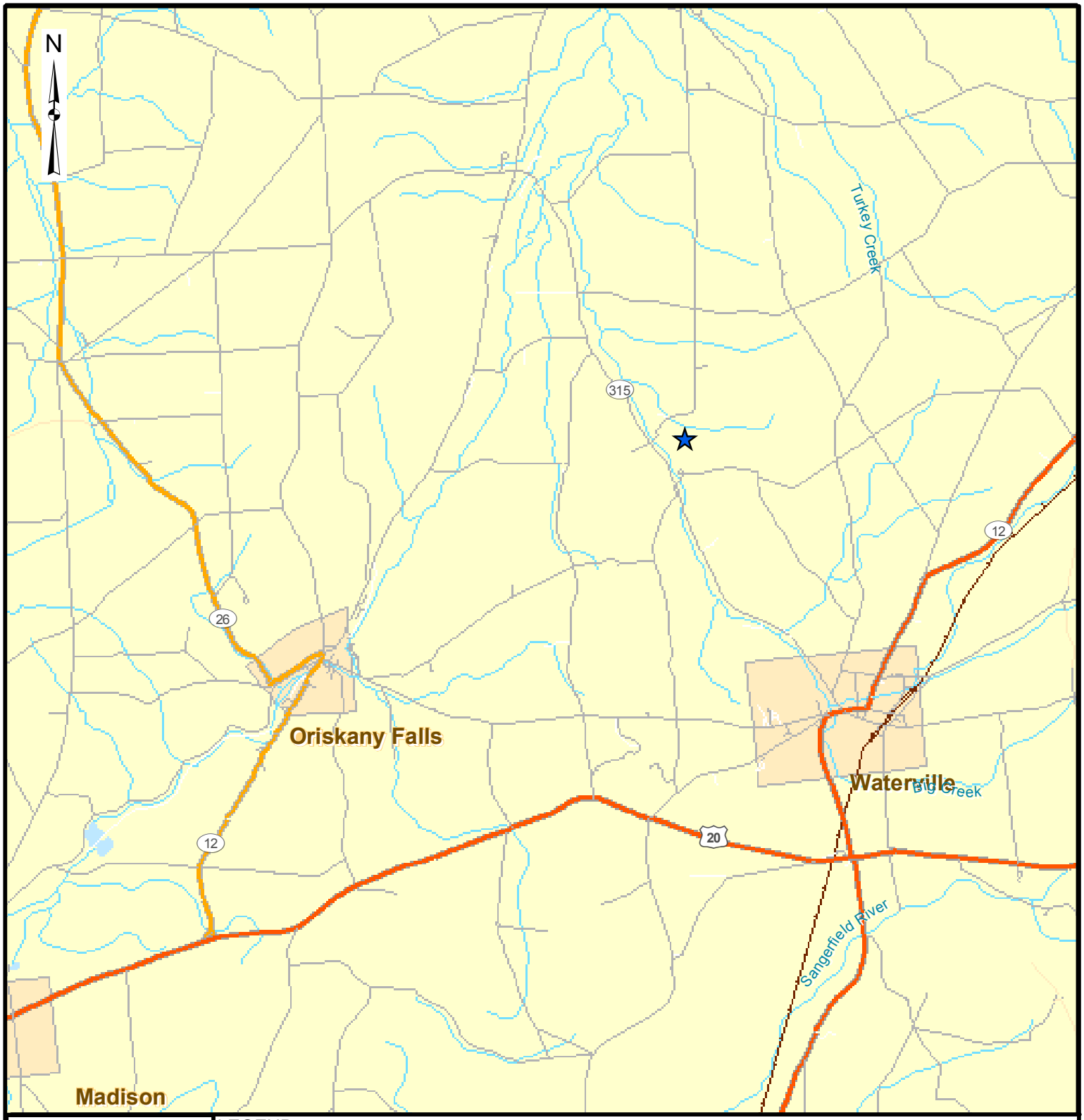
The following protocols will be followed daily prior to start of work activities:

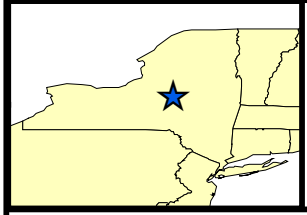
- The site Health and Safety Officer will review site conditions to determine if modification of work and safety plans is needed.
- Personnel will be briefed and updated on new safety procedures as appropriate.

- Safety equipment will be checked for proper function.

- The site Health and Safety Officer will ensure that the first aid kit is adequately stocked and readily available.

- The Contractor is responsible for the security of its own equipment. All onsite equipment and supplies will be locked and secure.





LEGEND

★ Site Location

0 0.250.5 1 1.5 2 Miles

Source: StreetMap USA

MARSHALL TRANSFORMER SITE (6-33-019)
IMMEDIATE INVESTIGATION WORK ASSIGNMENT
MARSHALL, NEW YORK

FIGURE 1
Site Location Map

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
RSC	CJS	DCC	DWE	AS SHOWN	AUGUST 2007	14368.17	GIS/PROJECTS/ FIGURE1.MXD

Attachment A

Worker Training and Physical Examination Record

ATTACHMENT A

WORKER TRAINING AND PHYSICAL EXAMINATION RECORD

SITE: Marshall Transformer, Town of Marshall, New York						
Name	OSHA 40-Hour Hazardous Waste Operations Training		OSHA Hazardous Waste Supervisor Training	CPR (date of expiration)	First Aid (date of expiration)	Date of Last Physical Examination
	Initial	Annual				
EA PERSONNEL						
Tom Porter	2/3/89	11/8/06	3/3/89	---	---	6/12/01
David Eck, P.E.	3/1/96	11/8/06	---	8/07	8/07	4/29/04
Robert Casey	11/1/01	6/12/06	---	4/18/08	4/18/09	10/26/04
Joe Von Uderitz	5/27/99	11/14/07	---	5/30/07	5/30/09	9/27/05
Megan Scott	7/12/07	---	---	5/30/09	5/30/09	4/26/07
Richard Waterman	8/88	1998	2/94	3/04	3/05	---
SUBCONTRACTOR OR ADDITIONAL PERSONNEL						
---	---	---	---	---	---	---
---	---	---	---	---	---	---

NOTE: Prior to performing work at the site, this Health and Safety Plan must be reviewed and an agreement to comply with the requirements must be signed by all personnel, including contractors, subcontractors, and visitors. Contractors and subcontractors are ultimately responsible for ensuring that their own personnel are adequately protected. In signing this agreement, the contractors and subcontractors acknowledge their responsibility for the implementation of the Health and Safety Plan requirements. All personnel onsite shall be informed of the site emergency response procedures and any potential safety or health hazards of the operations.

Attachment B

Review Record

ATTACHMENT B

HEALTH AND SAFETY PLAN REVIEW RECORD

I have read the Health and Safety Plan for this site and have been briefed on the nature, level, and degree of exposure likely as a result of participation in this project. I agree to conform to all the requirements of this Plan.

SITE: Marshall Transformer, Town of Marshall, New York			
Name	Signature	Affiliation	Date

Attachment C

Site Entry and Exit Log

ATTACHMENT C

SITE ENTRY AND EXIT LOG

SITE: Marshall Transformer, Town of Marshall, New York				
Name	Date	Time of Entry	Time of Exit	Initials

Attachment D

Accident Investigation Report

ACCIDENT/LOSS REPORT

THIS REPORT MUST BE COMPLETED BY THE INJURED EMPLOYEE OR SUPERVISOR AND FAXED TO EA CORPORATE HUMAN RESOURCES WITHIN 24 HOURS OF ANY ACCIDENT. THE FAX NUMBER IS **(410) 771-1780**.

NOTE WHENEVER AN EMPLOYEE IS SENT FOR MEDICAL TREATMENT FOR A WORK RELATED INJURY OR ILLNESS, PAGE 4 OF THIS REPORT MUST ACCOMPANY THAT INDIVIDUAL TO ENSURE THAT ALL INVOICES/BILLS/CORRESPONDENCE ARE SENT TO HUMAN RESOURCES FOR TIMELY RESPONSE.

A. DEMOGRAPHIC INFORMATION:

NAME OF INJURED EMPLOYEE:_____
HOME ADDRESS:_____
HOME PHONE:_____ DATE OF BIRTH:_____
AGE:_____ SEX: M F
MARITAL STATUS:_____ NAME OF SPOUSE (if applicable)_____
SOCIAL SECURITY NUMBER:_____ DATE OF HIRE:_____
NUMBER OF DEPENDENTS:_____
EMPLOYEES JOB TITLE:_____
DEPT. REGULARLY EMPLOYED:_____
WAS THE EMPLOYEE INJURED ON THE JOB: Y N
PRIMARY LANGUAGE OF THE EMPLOYEE: _____

B. ACCIDENT/INCIDENT INFORMATION:

DATE OF ACCIDENT:_____ TIME OF ACCIDENT:_____
REPORTED TO WHOM: _____ NAME OF SUPERVISOR_____
EXACT LOCATION WHERE ACCIDENT OCCURRED (**including street, city, state, and county**):
_____
_____
EXPLAIN WHAT HAPPENED (include what the employee was doing at the time of the accident and how the accident occurred): _____
_____
_____
_____

DESCRIBE THE INJURY AND THE SPECIFIC PART OF THE BODY AFFECTED (i.e., laceration, right hand, third finger):
_____
_____

OBJECT OR SUBSTANCE THAT DIRECTLY INJURED EMPLOYEE:_____
_____
NUMBER OF DAYS AND HOURS EMPLOYEE USUALLY WORKS PER WEEK:_____
IS THE EMPLOYEE EXPECTED TO LOSE AT LEAST ONE FULL DAY OF WORK?_____
DOES THE EMPLOYEE HAVE A PREVIOUS CLAIM? Y N if yes, STATUS Open Closed
WAS THE EMPLOYEE ASSIGNED TO RESTRICTED DUTY? _____

C. ACCIDENT INVESTIGATION INFORMATION

WAS SAFETY EQUIPMENT PROVIDED? Y N If yes, was it used? Y N
WAS AN UNSAFE ACT BEING FORMED ? Y N If yes, describe_____
WAS A MACHINE PART INVOLVED? Y N If yes, describe _____
WAS THE MACHINE PART DEFECTIVE? Y N If yes, in what way _____
WAS A 3RD PARTY RESPONSIBLE FOR THE ACCIDENT/INCIDENT? Y N
If yes, list Name, address and phone number_____
_____
WAS THE ACCIDENT/INCIDENT WITNESSED? Y N
If yes, list Name, address and phone number: _____
_____

D. PROVIDER INFORMATION

WAS FIRST AID GIVEN ON SITE? Y N
If yes, what type of medical treatment was given _____
PHYSICIAN INFORMATION (if medical attention was administered)
NAME:_____
ADDRESS (incl. City, state and zip):_____
PHONE:_____

HOSPITAL ADDRESS (incl. Name, address, city, state, zip code & phone)
_____
_____

WAS THE EMPLOYEE HOSPITALIZED? Y N If yes, on what date_____
WAS THE EMPLOYEE TREATED AS AN OUTPATIENT, RECEIVE EMERGENCY TREATMENT OR AMBULANCE SERVICE? _____

PLEASE ATTACH THE PHYSICIANS WRITTEN RETURN TO WORK SLIP

***NOTE* A PHYSICIANS RETURN TO WORK SLIP IS REQUIRED PRIOR TO ALLOWING THE WORKER TO RETURN TO WORK**

E. AUTOMOBILE ACCIDENT INFORMATION (complete if applicable)

AUTHORITY CONTACTED AND REPORT #_____
EA EMPLOYEE VEHICLE YEAR, MAKE AND MODEL_____

V.I.N._____ PLATE/TAG #_____
OWNER'S NAME AND ADDRESS:_____
_____
DRIVER'S NAME AND ADDRESS: _____
_____
RELATION TO INSURED:_____DRIVER'S LICENSE #_____
DESCRIBE DAMAGE TO YOUR PROPERTY:_____
_____
_____
DESCRIBE DAMAGE TO OTHER VEHICLE OR PROPERTY:_____
_____
_____
OTHER DRIVER'S NAME AND ADDRESS: _____
_____
OTHER DRIVER'S PHONE:_____
OTHER DRIVER'S INSURANCE COMPANY AND PHONE:_____
_____
LOCATION OF OTHER VEHICLE:_____
NAME, ADDRESS AND PHONE OF OTHER INJURED PARTIES:_____
_____
_____
WITNESSES

NAME:_____ PHONE:_____
ADDRESS:_____
STATEMENT:_____
_____
SIGNATURE: _____

NAME:_____ PHONE:_____
ADDRESS:_____
STATEMENT:_____
_____
SIGNATURE: _____

F. ACKNOWLEDGEMENT

NAME OF SUPERVISOR:_____
DATE OF THIS REPORT: _____ REPORT PREPARED BY:_____

I have read this report and the contents as to how the accident/loss occurred is accurate to the best of my knowledge.

Signature: _____ Date: _____
Injured Employee

I am seeking medical treatment for a work related injury/illness.

Please forward all bills/invoices/correspondence to:

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

11019 McCORMICK ROAD

HUNT VALLEY, MD 21031

ATTENTION: Michele Bailey
HUMAN RESOURCES

(410) 584-7000

INCIDENT REPORT

THIS REPORT IS TO BE COMPLETED WHEN A NEAR MISS OCCURS THAT COULD HAVE POTENTIALLY RESULTED IN SERIOUS PHYSICAL HARM. PLEASE FAX THIS FORM TO EA HUMAN RESOURCES DEPARTMENT AT **(410) 771-1780**.

EXPLAIN WHAT HAPPENED (include what the employee was doing at the time the near miss and how it occurred:) _____

REPORT PREPARED BY: _____ DATE:_____

Attachment E

Emergency Telephone Numbers and Hospital Directions

ATTACHMENT E

EMERGENCY TELEPHONE NUMBERS AND HOSPITAL DIRECTIONS

SITE: Marshall Transformer, Town of Marshall, New York	
Police: Oneida County Sheriff's Department	9-1-1
Fire: Waterville Fire Department	9-1-1
Ambulance:	9-1-1
Hospital: Faxton Hospital Critical Care Unit	(315) 624-4422
New York Regional Poison Control Center: 750 East Adams Street, Syracuse, NY	(315) 464-7078 800-222-1222
Directions to Faxton Hospital Critical Care Unit, 1676 Sunset Avenue, Utica, New York Starting in Marshall, NY on State Route 12B go toward W. Hill Road – go 0.1 mi. Continue on RT-12B – go 3.0 mi. Turn left on RT-233 – go 2.9 mi. Bear right on Old Bristol Road – go 0.5 mi. Bear right on RT-5 – go 4.1 mi. Continue on North-South Arterial Highway (RT-12N) – go 0.7 mi. Continue to follow RT-12 N – go 1.5 mi. Take ramp onto Burrstone Road toward Burrstone Road East – go 0.4 mi. Turn Left on Bennett Street – go 0.1 mi. Turn Right on Newell Street – go less than 0.1 mi. Turn right on Sunset Avenue – go less than 0.1 mi. Arrive at 1676 Sunset Avenue, in Utica. Total trip is 13.6 miles; travel time is approximately 22 minutes.	
Program Safety and Health Officer: ***Peter Garger, CIH***	(410) 771-4950
Program Manager: ***Christopher Canonica, P.E.***	(315) 431-4610
EA Project Manager ***Robert Casey***	(315) 431-4610
In case of spill, contact *Robert Casey*	(315) 431-4610
EA Medical Services EMR 4360 Chamblee Dunwoody Road, Suite 202 Atlanta, Georgia 30341 ***Contact: Dr. Elayne F. Theriault***	(800) 229-3674
Site Manager/Site Health and Safety Officer: ***Joe Von Uderitz***	(315) 431-4610
In case of accident or exposure incident, contact Corporate Health and Safety Officer ***Peter Garger***	(410) 771-4950

Attachment F

Emergency Equipment Available Onsite

ATTACHMENT F

EMERGENCY EQUIPMENT AVAILABLE ONSITE

Type of Equipment	Location
Communications Equipment	
Mobile Telephone	In EA vehicle
Medical Support Equipment	
First Aid Kits	In EA vehicle
Eye Wash Station	In EA vehicle
Fire Fighting Equipment	
Fire Extinguishers	In EA vehicle

Attachment G

Map to Hospital

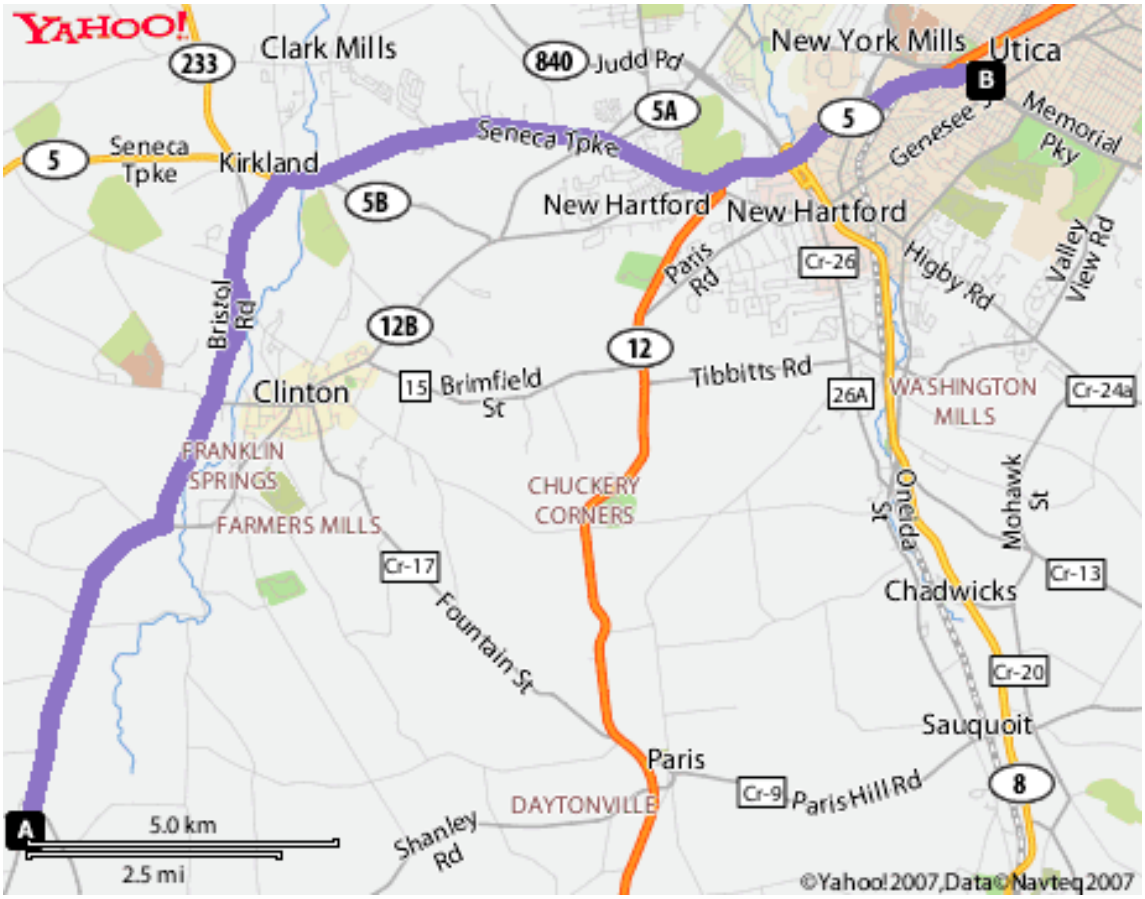
ATTACHMENT G

MAP TO HOSPITAL

Directions to Faxton Hospital Critical Care Unit, 1676 Sunset Ave., Utica, New York:

Starting in Marshall, NY on State Route 12B go toward W. Hill Road – go 0.1 mi. Continue on RT-12B – go 3.0 mi. Turn left on RT-233 – go 2.9 mi. Bear right on Old Bristol Road – go 0.5 mi. Bear right on RT-5 – go 4.1 mi. Continue on North-South Arterial Highway (RT-12N) – go 0.7 mi. Continue to follow RT-12 N – go 1.5 mi. Take ramp onto Burrstone Road toward Burrstone Road East – go 0.4 mi. Turn Left on Bennett Street – go 0.1 mi. Turn Right on Newell Street – go less than 0.1 mi. Turn right on Sunset Avenue – go less than 0.1 mi. Arrive at 1676 Sunset Avenue, in Utica.

Total trip is 13.6 miles; travel time is approximately 22 minutes.



Attachment H

Personal Protective Equipment
Activity Record

ATTACHMENT H

PERSONAL PROTECTIVE EQUIPMENT ACTIVITY RECORD

SITE: Marshall Transformer, Town of Marshall, New York		
Weather Condition:		Onsite Hours: From To
Changes in Personal Protective Equipment Levels[(a)]	Work Operations	Reasons for Change
Site Health and Safety Plan Violations	Corrective Action Specified	Corrective Action Taken (yes/no)
Observations and Comments:		
Completed by: _____ Site Health and Safety Officer		Date
(a) Only the Site Health and Safety Officer may change personal protective equipment levels, using only criteria specified in the Health and Safety Plan.		

Attachment I

NYSDOH Generic Community Air Monitoring Plan

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 <u>ground intrusive</u> 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.

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