



January 29, 2013

Mr. Howard Brezner
New York State Department of Environmental Conservation
Region 4
1130 N. Westcott Road
Schenectady, New York 12306

**RE: Submittal of the “On-Site Hydraulic Gradient Investigation Work Plan Associated with Monitoring Well OW5A-92” at the Congress Street Facility, SI Group, Inc.
CHA Project No. 15091.5002**

Dear Mr. Brezner:

On behalf of SI Group, Inc., enclosed is the proposed “On-Site Hydraulic Gradient Investigation Work Plan Associated with Monitoring Well OW5A-92” (On-Site Work Plan). The On-Site Work Plan has been prepared in response to the New York State Department of Environmental Conservation (NYSDEC) letter received on December 26, 2012 requesting that SI Group modify the “Off-Site Investigation Work Plan Associated with Monitoring Well OW5A-92” (Off-Site Work Plan) to determine if the groundwater collection trench is providing an inward gradient from OW5A-92 toward the Site.

As an alternative to modifying the Off-Site Work Plan, we have prepared this separate On-Site Work Plan to document the presence of an inward gradient. If an inward gradient can be demonstrated, the NYSDEC has indicated that implementation of the “Off-Site Investigation Work Plan Associated with Monitoring Well OW5A-92” will not be required.

If you have any questions, please call me at (518) 453-2899.

Sincerely,

A handwritten signature in black ink, appearing to read 'Keith Cowan', is written over a light blue horizontal line.

Keith Cowan, CPG
Project Manager

ecc: Mr. Howard Brezner, NYSDEC Region 4, hsbrezner@gw.dec.state.ny.us
Mr. Robert Cozzy, NYSDEC, rjcozzy@gw.dec.state.ny.us
Mr. S. Ezekwo, EPA Region 2, Ezekwo.Sam@epamail.epa.gov
Mr. Charles Gardner, SI Group, chuck.gardner@siigroup.com
Mr. Kevin Kogut, SI Group, kevin.kogut@siigroup.com
Mr. Andy Barrett, SI Group, andy.barrett@siigroup.com
Mr. Mark Normandin, SI Group, mark.normandin@siigroup.com
Mr. Glen Golden, SI Group, glen.golden@siigroup.com
Mr. Keith Cowan, CHA, kcowan@chacompanies.com

M:\15091\12978\Congress Street\Reports\2011 Investigation Work Plan\REV2\Cover Letter dated 1-29-13.docx

On-Site Hydraulic Gradient Investigation Work Plan Associated with Monitoring Well OW5A-92

**SI Group, Inc.
Congress Street Facility
Schenectady, New York**

NYSDEC Site Code: HW447007

CHA Project Number: 15091.4002.31000

*Prepared for:
SI Group, Inc.
Congress Street Facility
Schenectady, New York*

Prepared by:



*III Winners Circle
Albany, New York 12205
(518) 453-4500*

January 2013

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1.0 INTRODUCTION

The Congress Street Site is located in the City of Schenectady in Schenectady County, New York at Congress Street and Tenth Avenue as shown in Figure 1. The Site encompasses an area approximately 7 acres in size with approximately 5.1 acres having been developed. SI Group, Inc. owned and operated a chemical manufacturing facility at the Congress Street Site from approximately 1910 to 1997 when manufacturing activities ceased at the Site. In 1995, SI Group completed a Remedial Investigation that identified groundwater contamination in the shallow groundwater in the sections of the site where the process buildings were located.

As a result of the investigation, New York State Department of Environmental Conservation (NYSDEC) issued a Record of Decision (ROD) in March 1998 that required the installation of a groundwater collection system (GWCS) to intercept the migration of contaminated groundwater from moving off-site. The GWCS consists of a 700-foot long collection drain connected to a wet-well (WW1) and four extraction wells (two on-site and two off-site) designated as PW1, PW2, PW3 and PW4. Contaminated groundwater is pumped from the GWCS and sent to an on-site treatment system.

The performance and effectiveness of the GWCS is monitored, which includes quarterly sampling of groundwater monitoring wells. The results of the monitoring program are reported to NYSDEC quarterly and are summarized in an annual performance monitoring report.

Since December 2008, 2,4-dimethylphenol has been detected in monitoring well OW5A-92, which is located off-site and down-gradient of the GWCS. The levels of 2,4-dimethylphenol have generally increased since the initial detection in 2008. In addition, the contaminants normally associated with the Site have not been detected in monitoring well OW5A-92.

In January 2011, SI Group submitted the 2010 Annual Operation and Maintenance Report for the Groundwater Collection System, which included the most recent concentration of 2,4-dimethylphenol detected in monitoring well OW5A-92. As a result of the 2010 Annual Operation and Maintenance Report, in a letter dated May 17, 2011, the NYSDEC requested an investigation to determine if a source of contamination is present between the GWCS and monitoring well OW5A-92.

In response to the NYSDEC request, an “Off-Site Investigation Work Plan Associated with Monitoring Well OW5A-92” (Off-Site Work Plan) to investigate the area between the groundwater

collection trench and monitoring well OW5A-92 was prepared and submitted to the NYSDEC on June 20, 2011. The NYSDEC provided comments on the Off-Site Work Plan in a letter dated August 3, 2011. Their comments were addressed and a revised Off-Site Work Plan was submitted on August 18, 2011. The NYSDEC approved the revised Off-Site Work Plan in a letter dated September 7, 2011.

As shown in Figure 2, the main CSX/Amtrak railroad line between Albany and Schenectady is located in the proposed investigation area. The proposed investigation would require CSX approval since the investigation is to be completed on CSX property. In addition, all field work must be coordinated with CSX to ensure that all safety procedures are followed during the investigation.

Since the time that SI Group received approval of the proposed Off-Site Work Plan in September 2011, they have been diligently working to obtain the necessary approvals from CSX to implement the Off-Site Work Plan. To date, however, approval has not been granted. Additionally, in late October 2012, CSX informed CHA that ownership of the rail line adjacent to the Congress Street site has been transferred to Amtrak and permission to access the property will now need to be received from Amtrak. In its letter dated December 26, 2012, the NYSDEC acknowledged these efforts but requested that SI Group modify the investigation work plan to determine if the groundwater collection trench is providing an inward gradient from OW5A-92 toward the Site.

Based on this request, SI Group has prepared this “On-Site Hydraulic Gradient Investigation Work Plan Associated with Monitoring Well OW5A-92”. The data obtained from this investigation will be used to determine if an inward gradient is present toward the groundwater collection trench. If an inward gradient can be demonstrated, the NYSDEC has indicated that implementation of the “Off-Site Investigation Work Plan Associated with Monitoring Well OW5A-92” will not be required.

The field investigation will be conducted in accordance with the procedures contained in this Work Plan.

2.0 BACKGROUND

In accordance with the Record of Decision issued in March 1998, SI Group has completed quarterly groundwater monitoring of the GWCS since the system was installed in 2002.

In December 2008, 2,4-dimethylphenol was detected in monitoring well OW5A-92 at a concentration 13 µg/L. As shown in Figure 2, monitoring well OW5A-92 is located off-site between the collection trench and the Cowhorn Creek. Field personnel noted a slight fertilizer odor in the well at the time of sampling and observed that the nearby railroad right-of-way appeared to have been sprayed with a defoliant/herbicide, as evidenced by browned vegetation in a large swath parallel to the tracks.

As a result of the detection of 2,4-dimethylphenol in monitoring well OW5A-92, the level of 2,4-dimethylphenol has continued to be monitored. The following table provides a summary of the amount of 2,4-dimethylphenol detected in well OW5A-92 since December 2008.

Sample Date	2,4-Dimethylphenol
12/9/2008*	13
3/16/2009	290
5/8/2009	430 E
6/8/2009	220
6/8/2009*	190
9/14/2009	230
12/15/2009	2100
3/15/2010	3600
6/15/2010	3400 E
9/9/2010	1300
12/9/2010	6970
3/14/2011	4140
06/13/2011	4200 E
09/01/2011	4800 EJ
12/12/2011	3300
3/26/2012	3000
6/15/2012	2400
9/12/2012	370

*Sample analyzed by TestAmerica. All other samples analyzed by AES.

All units are in µg/L.

E = Exceeds calibration range.

The analyses of the groundwater samples collected from OW5A-92 continue to not detect other VOCs and SVOCs which are being detected in other on-site monitoring wells. As shown in the table below, the primary parameters being detected in the wet well and the pumping wells include: benzene, (1-methylethyl)-, chlorobenzene, ethylbenzene, toluene, xylene, 2,4-dimethylphenol, 2-methylnaphthalene, acenaphthene, naphthalene, and phenol. The only parameters detected in monitoring well OW5A-92 during the September 2012 monitoring event were 2,4-dimethylphenol and naphthalene. These data suggest that there is a significant difference in the nature of the chemical contamination in monitoring well OW5A-92 versus the wet well and pumping wells.

Sample ID: Sample Date:	OW5A 9/12/2012	WW1 9/11/2012	PW1 9/11/2012	PW2 9/11/2012	PW3 9/11/2012
<i>Parameter</i>					
Benzene	ND	ND	ND	6.8	ND
Benzene, (1-methylethyl)-	ND	5.4 J	99	170	6.1
Chlorobenzene	ND	ND	1.8 J	8.1	1.5 J
Ethylbenzene	ND	180	150	370	ND
Toluene	ND	12	ND	11	ND
Xylenes, Total	ND	566	31	3000	ND
2,4-Dimethylphenol	370	140	ND	ND	ND
2-Methylnaphthalene	ND	2.9 J	52	330	ND
2-Methylphenol	ND	9.9 J	ND	ND	ND
4-Methylphenol	ND	8.7 J	ND	ND	ND
Acenaphthene	ND	ND	42	51 J	ND
Dibenzofuran	ND	ND	20	ND	ND
Fluorene	ND	ND	3.3 J	ND	ND
Naphthalene	38 J	22	120	2600	ND
Phenol	ND	5.8 J	ND	ND	2.3 J

ND = Parameter not detected above the associated reporting limit.
J = Estimated

In addition, the operation of the collection system is monitored by the amount of groundwater removed from the wet well and the groundwater elevation in the wet well. Groundwater elevations in the wet well along with the flow data show that the collection trench is working as specified with no significant change to indicate that the system is being bypassed. An analysis of groundwater elevations along with the fact that the collection trench is operating as specified indicates that there is minimal, if any, gradient between the collection trench and OW5A-92, which would further suggest that the recent detections are not a result of movement of contamination off-site.

Based on discussions with Amtrak personnel who are responsible for track maintenance between Schenectady and Rensselaer, approximately 70 railroad ties were replaced in May of 2008 in the

area directly adjacent to the Congress Street facility. These railroad ties were new and were pre-treated with creosote before they were installed. In addition, Amtrak personnel confirmed that herbicides have been applied annually each spring since at least May 2009. Either of these conditions may have contributed to the recent detections in OW5A-92.

As previously noted, the purpose of this investigation is to determine if an inward gradient is present toward the groundwater collection trench and to characterize groundwater flow in the area adjacent to the trench.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The supplemental investigation activities are being conducted by SI Group under the supervision of the SI Group Project Manager, who is the prime contact for communication with the NYSDEC. Field oversight and coordination are to be provided by CHA. The CHA Project Manager is responsible for the delivery of CHA services. The project organization chart and a brief description of the duties of key personnel are presented below. Resumes for CHA staff providing environmental services are included in Appendix A.

SI Group

SI Group Project Manager

- Responsible for the overall environmental program of the Congress Street Facility

CHA

Keith Cowan, C.P.G – CHA Project Manager

- Responsible for following the approved Work Plan and obtaining approval by the NYSDEC for all modifications to the project;
- Provide overall and day-to-day project management;
- Ensure all resources of CHA are available on an as required basis;
- Participate in key technical negotiations with the NYSDEC, as necessary;
- Provide managerial guidance to CHA's technical group;
- Evaluate data; and,
- Prepare and coordinate the issuance of report.

Mark Corey, P.E. - CHA Quality Assurance/ Quality Control (QA/QC)

- Conduct internal audit of field investigation and sampling;
- Assist in preparation and review of report; and,
- Provide technical representation for field activities.

Sarah Newell - Technical Manager/ Project Coordinator

- Responsible for the preparation of the Work Plan;
- Provide immediate supervision of all on-site activities;
- Assist in preparation and review of report;

-
- Provide technical representation for field activities; and,
 - Responsible for maintenance of the field equipment.

Jamie Herrick, Field Oversight and Quality Control Coordinator

- Will serve as Field Team Leader;
- Work with field crew to prepare for field activities and conduct investigations; and,
- Will be on Site to
 1. Provide oversight and coordination of field activities.
 2. Ensure that required QC procedures are followed for soil boring and piezometer installation activities and data collection.
 3. Initiate informal and/or formal corrective actions as necessary.
 4. Maintain and report QC records (i.e. chain-of-custody, field equipment calibration, etc.).
 5. Report to the Project Manager.

Howard Brezner, NYSDEC Project Manager

- Approve this Work Plan and any modifications to the project

4.0 FIELD SAMPLING PLAN

4.1 OBJECTIVES

The investigation to be performed will entail boring and piezometer installation along with groundwater elevation measurements to document groundwater conditions in the area directly within and adjacent to the groundwater collection trench.

4.2 FIELD PROCEDURES AND PROTOCOLS

4.2.1 Boring Installation

Four (4) borings will be installed using standard Geoprobe® drilling techniques. The boring locations, all of which are on-site and upgradient of monitoring well OW5A-92, are shown on Figure 3. Two (2) borings (GP01-13 and GP02-13) will be installed within the groundwater collection trench, approximately 25 feet apart. The remaining two (2) remaining borings (GP03-13 and GP04-13) will be installed approximately 8 to 10 feet downgradient of borings GP01-13 and GP02-13, adjacent to the site fencing.

Based on the design report and associated drawings for the installation of the groundwater collection trench (Conestoga-Rovers & Associates, March 1999), a 60 mil high density polyethylene (HDPE) liner was installed over the top of the collection trench in order to prevent surface water infiltration into the groundwater collection trench. A 12-inch layer of common fill and 6-inch layer of topsoil overlay the HDPE liner. In order to preserve the integrity of the HDPE liner, each boring will be hand-cleared to the top of the liner. The liner will then be cut by hand, creating an opening for the Geoprobe® drilling equipment.

Soil cores will be collected continuously in four (4) foot increments from grade to final depth using a Macrocore® sampling device. The soil core will then be screened in the field for visual, olfactory, and photoionic evidence of contamination. The maximum depth of the borings installed within the groundwater collection trench will be to a depth of three (3) feet above the collection pipe, or approximately 10 feet below ground surface (bgs). The maximum depth of borings GP03-13 and GP04-13 is expected to be 10 to 15 feet bgs; the depth will be determined in the field based on the depth to groundwater. The depth and location of each boring may vary depending upon geologic conditions.

Before drilling at each boring location and after drilling at the last location, the drilling equipment and all sampling equipment will be decontaminated in accordance with the protocols established in Section 5.0. Drill cuttings will be managed as described in Section 4.3.

4.2.2 Piezometer Installation

In order to obtain water level measurements and groundwater samples during this and potentially future investigations, a permanent piezometer will be installed in each of the four (4) borings.

The borings will be converted to piezometers (PZ01-13 through PZ04-13) constructed using either a 5- or 10-foot section of 1-inch diameter, 10-slot PVC screen and finished with the requisite length of solid PVC riser pipe. The screen will be installed to straddle the water table. A sand pack, consisting of a minimum thickness of one (1) inch, will be placed within the annulus between the borehole and the well screen. Alternatively, a pre-packed well screen may be used in lieu of the placement of a field installed sand pack. A 2-foot bentonite seal will then be placed above the screen. The remaining borehole between the bentonite seal and the HDPE liner system will be backfilled with bentonite-cement grout.

Each piezometer will be completed with a locking well-cap. A steel protective casing will be placed over the PVC riser, extending approximately one (1) to two (2) feet below the HDPE liner. The protective casing penetration will be sealed with a section of geosynthetic clay liner (BentoMat or similar) and granular bentonite. The surface seal (above the HDPE liner) will be completed with quick setting concrete placed into a Sono Tube™.

4.2.3 Water Level Measurements

A minimum of 24 hours after installation of each piezometer, water level measurements will be collected from the new piezometers as well as from the rest of the monitoring wells in the current hydraulic monitoring network (Figure 2).

Water level measurements will be obtained by measuring the distance from the marked location of the top of the riser to the top of the water column using an electronic water level indicator. All measurements will be obtained to nearest hundredth of one foot accuracy.

Water level measuring equipment that comes in contact with ground water will be cleaned in accordance with Section 5.0 to ensure that cross-contamination does not occur.

4.2.4 Survey

After collection of the depth to groundwater measurements, the elevation of the top of the casing and the ground surface elevations at the new piezometer locations, along with their horizontal locations, will be surveyed by CHA personnel and tied into the existing site survey data. The survey data is necessary to determine the overall direction of groundwater flow in the vicinity of the groundwater collection trench.

4.3 INVESTIGATION DERIVED WASTE

Soils generated during the investigation that do not contain any field evidence of contamination (visual, olfactory or photoionic) will be dispersed on the ground in the immediate vicinity of the associated boring. Any soil that is determined to be potentially contaminated based on field observations will be placed in DOT approved 55-gallon drums which will be temporarily staged on-site for characterization and final disposition.

All decontamination water will be considered to be contaminated and will be placed in DOT approved 55-gallon drums which will be temporarily staged on-site for characterization and final disposition.

All gloves, PPE, sampling materials, etc. will be collected on a daily basis and disposed of as solid waste.

5.0 DECONTAMINATION

Prior to mobilization, the drill rig shall be thoroughly cleaned to remove oil, grease, mud, and other foreign matter. Subsequently, before initiating drilling at each boring location, samplers, drill steel, and associated equipment will be cleaned to prevent cross-contamination. All cleaning will be conducted at a predetermined on-site location. Cleaning will be accomplished using the procedures outlined in the following sections.

5.1 SMALL EQUIPMENT

The decontamination procedure for all manual sampling and water level measurement equipment is:

1. Disassemble equipment, as required.
2. Remove gross contamination from the equipment by brushing and then rinsing with tap water.
3. Wash and scrub with low phosphate detergent;
4. Thoroughly rinse with tap water; and
5. Air dry.

Field personnel will use a new pair of outer gloves before handling sample equipment after it is cleaned.

5.2 LARGE EQUIPMENT

A temporary equipment decontamination pad will be constructed for the drill rig, which will be decontaminated before leaving the Site. The drill rig will be decontaminated by first removing gross contamination from the equipment by brushing or wiping. All equipment will then be thoroughly washed using a high-pressure steam cleaner.

The water generated from decontaminating equipment will be collected by placing 10-mil polyethylene sheeting over an approximately twenty-foot by twenty-foot area with raised sides and one low spot to direct the water to one corner of the pad. The collected water will be pumped into a steel drum(s) and managed as investigation derived waste in accordance with Section 4.3.

6.0 HEALTH AND SAFETY PROTOCOL

6.1 General

The work to be completed during the off-site investigation will require site workers to perform tasks where personal safety could be compromised due to chemical, physical, and biological hazards. While conducting fieldwork, site workers may be exposed to chemical contaminants including a wide variety of organic compounds. Additionally, site workers may be exposed to physical hazards, including but not limited to, heavy machinery, excavations, fast-moving trains, and trip/fall hazards. Since the majority of the work to be completed will be done within the railroads right-of-way, compliance with the railroads safety requirements will be required.

A Site Health & Safety Plan (HASP) (Appendix B) has been prepared for the use of CHA and their employees. Properly trained and experienced CHA subcontractors may also use the HASP as a guideline document. The requirements and guidelines in the HASP are based on a review of available information and an evaluation of potential on-site hazards from previous studies and information available to date.

This HASP will be discussed with site personnel and will be available on-site for review while work is underway. All personnel conducting site activities must be familiar with the procedures, requirements and provision of this plan, and in the event of conflicting plans/requirements, personnel must implement those safety practices which afford the highest level of protection. CHA's Field Team Leader will also serve as CHA's Health and Safety Coordinator and is responsible for implementation of this HASP into daily site activities. A copy of the Site Health and Safety Plan is included in Appendix B.

7.0 REPORTING

An “On-Site Hydraulic Gradient Investigation Report” will be prepared summarizing the information generated during implementation of this Work Plan. The report will be prepared in general accordance with DER-10 Technical Guidance for Site Investigation and Remediation.

The report will include the following information and data pertaining to the On-Site Investigation:

- Field logs, including but not limited to: boring logs and piezometer installation logs;
- Groundwater piezometric surface map;
- Cross section(s); and,
- A narrative that summarizes the results of the investigation.

8.0 SCHEDULE

The following schedule has been developed based upon assumed durations of field investigation activities and may be extended or abbreviated based upon actual conditions encountered.

Table 8-1: Project Schedule

Task	Start Date
Field Investigation Initiated	Within 30 Days of receiving NYSDEC approval of Work Plan and after ground thaws*
Submittal of On-Site Hydraulic Gradient Investigation Report to NYSDEC	Within 45 days of completing field investigation

*Due to the necessity of hand-clearing the boring locations, the field investigation may be delayed due to weather and site conditions.

FIGURES



SOURCE: U.S.G.S. 7.5' Topographic
 QUADRANGLE: SCHENECTADY, NY

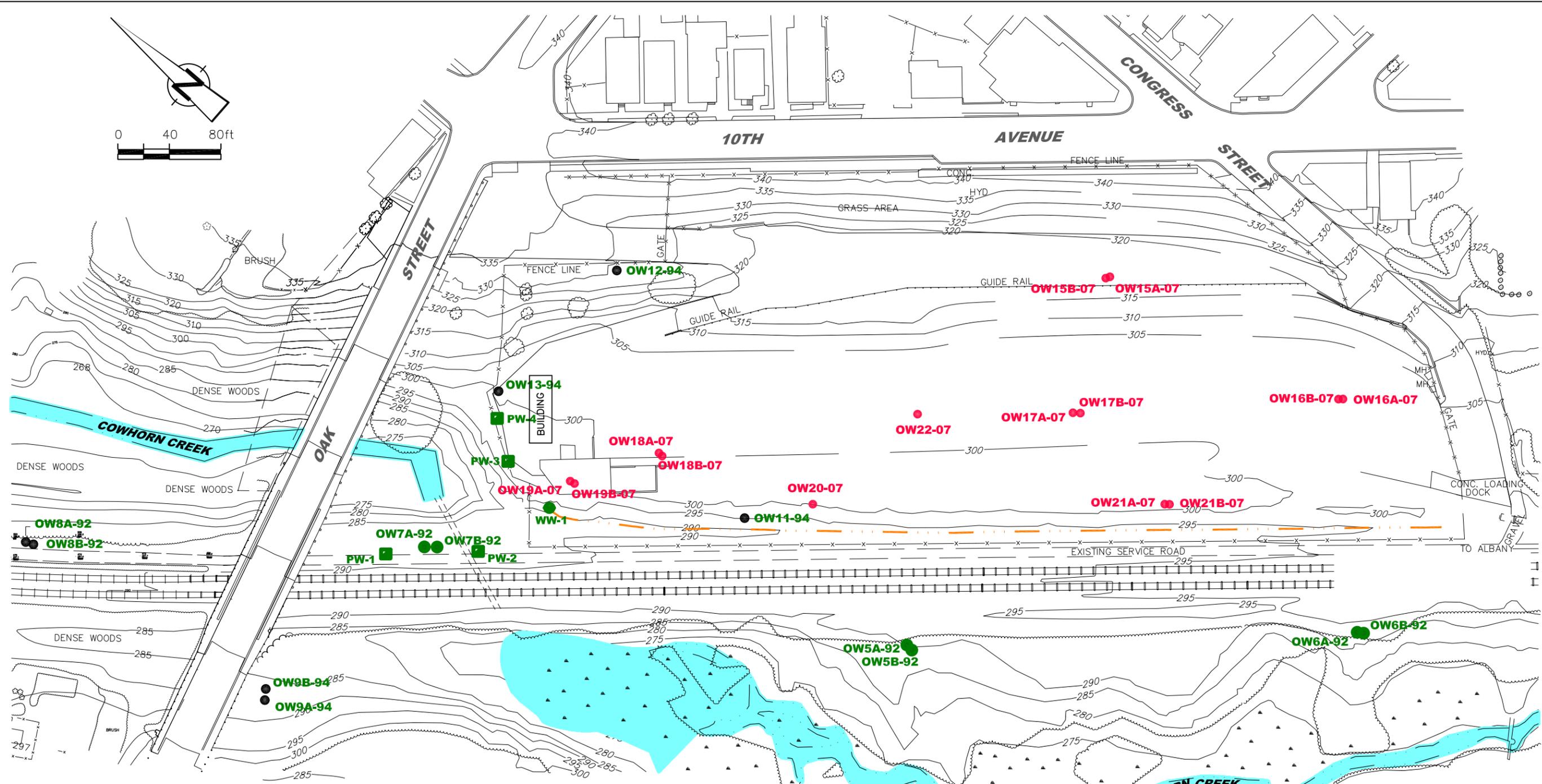
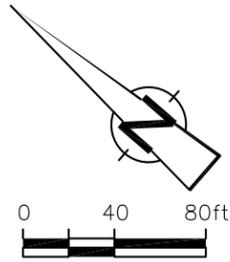
SCALE: 1"=2000'



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FIGURE 1
 SITE LOCATION MAP

CONGRESS STREET PLANT
 SI GROUP, INC.
 SCHENECTADY, NEW YORK



LEGEND

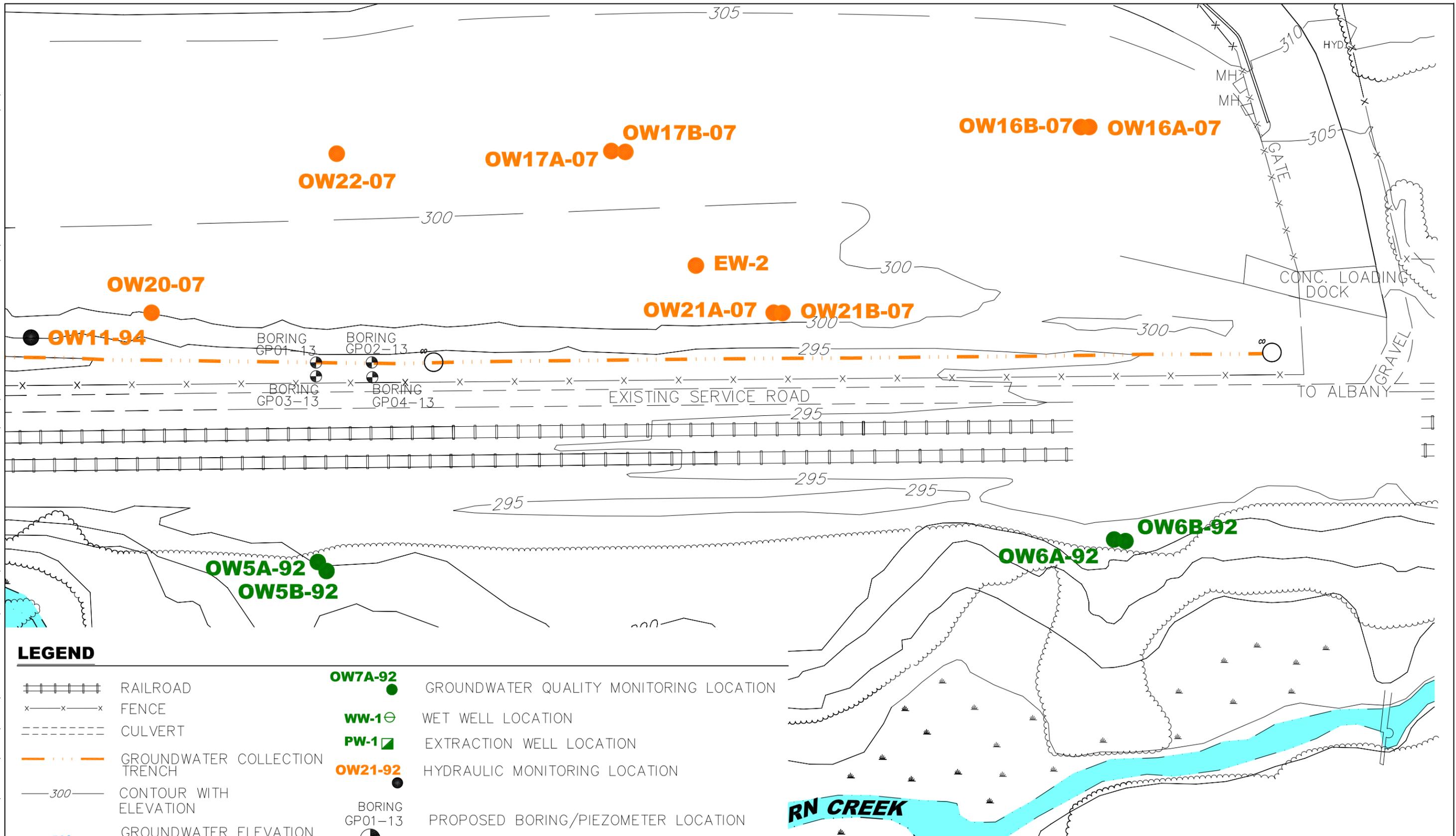
- RAILROAD
- FENCE
- CULVERT
- GROUNDWATER COLLECTION TRENCH
- CONTOUR WITH ELEVATION
- GROUNDWATER ELEVATION CONTOUR
- OW7A-92** GROUNDWATER QUALITY MONITORING LOCATION
- OW15A-07** NEW GROUNDWATER ELEVATION MONITORING LOCATION
- PW-1** EXTRACTION WELL LOCATION
- WW-1** WET WELL LOCATION

Drawing Copyright © 2008 Clough Harbour & Associates LLP

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SITE PLAN
CONGRESS STREET FACILITY
SI GROUP INC.
SCHENECTADY, NEW YORK

PROJECT NO. 15091
DATE: 06/11
FIGURE 2



LEGEND

- RAILROAD
- FENCE
- CULVERT
- GROUNDWATER COLLECTION TRENCH
- CONTOUR WITH ELEVATION
- GROUNDWATER ELEVATION CONTOUR
- OW7A-92** GROUNDWATER QUALITY MONITORING LOCATION
- WW-1** WET WELL LOCATION
- PW-1** EXTRACTION WELL LOCATION
- OW21-92** HYDRAULIC MONITORING LOCATION
- BORING GP01-13 PROPOSED BORING/PIEZOMETER LOCATION
- OW15A-07** HYDRAULIC MONITORING LOCATION
- CLEANOUT MANHOLE

CHA
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PROPOSED BORING/PEIZOMETER LOCATIONS
CONGRESS STREET FACILITY
SI GROUP INC.
SCHENECTADY, NEW YORK

PROJECT NO.
15091.4002
DATE: 1/18/13
FIGURE 3

APPENDIX A

CHA Staff Resumes

APPENDIX A CHA RESUMES

Keith Cowan – CHA Project Manager

Education: University at Buffalo, B.A. Geology
Certified Professional Geologist

Mr. Cowan has over 14 years of experience in the environmental consulting industry. His experience includes remedial investigations and feasibility studies (RI/FS), solid and hazardous waste landfill investigations and closure projects, environmental site characterizations and hazardous materials assessments for large facility decommissioning projects, environmental compliance projects, public and private Brownfield projects, as well as site remediation.

Mark Corey – CHA Quality Assurance/Quality Control

Education: Mississippi State University, B.S. Civil Engineering
Clemson University, M.S. Environmental Systems Engineering
Licensed Professional Engineer in the State of New York

Mr. Corey is a senior engineer with over 20 years of experience. His design experience includes the areas of site investigation and remediation, environmental compliance across all media, and industrial water and wastewater management.

Sarah Newell – CHA Technical Manager/Project Coordinator

Education: Union College, B.S. Geology
University of Florida, M.S. Geology

Ms. Newell is a Project Geologist in our Environmental Group with 7 years of experience. Her experience includes conducting compliance evaluations, Phase I Environmental Site Assessments, Phase II Subsurface Investigations, and site remediation for both municipal and industrial clients. Ms. Newell has an extensive background in environmental regulatory compliance, specializing in petroleum and chemical bulk storage in the State of New York.

Jamie Herrick – CHA Field Oversight and Quality Control Coordinator

Education: SUNY College of Environmental Science and Forestry

Mr. Herrick has over 18 years experience including 12 years direct experience with solid waste, landfill, and environmental projects. He is versed in State and Federal Rules and Regulations, Safety Issues, and Heavy Construction projects.

APPENDIX B

Health and Safety Plan



SITE HEALTH AND SAFETY PLAN

PROJECT INFORMATION

Project Name: On-Site Hydraulic Gradient Investigation	CHA Project No. 15091
Project Start Date: TBD Completion Date: TBD	Weather: TBD
Project Location: Congress Street Facility, Schenectady, NY (SI Group, Inc.)	Project Task: Investigation relative to recent detections in off-site monitoring well OW5A-92

Description of Work: Installation of several soil borings/piezometers and water level measurements

Key Personnel:	Keith Cowan	Jamie Herrick	Jamie Herrick
<i>Responsibilities:</i>	<i>Project Manager</i>	<i>Field Team Leader</i>	<i>Site Safety Officer</i>

Description of Hazards: Physical hazards associated with soil boring/piezometer installation and water level measurement.

TASK HAZARDS				TASK SAFETY MEASURES & PPE	
Eye	Chemical Exposure	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/> Safety Glasses	
	High Heat/Cold	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Safety Goggles	
	Dust/Flying Debris	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/> Face Shield	
	Impact	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Shaded Lenses	
	Light/Radiation	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Head	Impact	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/> Hard Hat: <input checked="" type="checkbox"/> Orange or <input checked="" type="checkbox"/> White or <input checked="" type="checkbox"/> Blue	
	Electrical Shock	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Reflector Tape (Required for night operations)	
	Lack of Visibility	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Foot	Chemical Exposure	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Work Boots	<input checked="" type="checkbox"/> Steel Toed Boots
	High Heat/Cold	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Ankle Protection	<input type="checkbox"/> I/75 C/75 (Impact/Compression)
	Impact/Compression	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/> Rubber Boots	<input type="checkbox"/> Cd Type 1 or 2 (Conductive)
	Slips/Trips	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/> Insulated Boots	<input type="checkbox"/> PR (Puncture Resistant)
	Puncture	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Non-slip Soles	<input type="checkbox"/> Mt/70 or 50 or 30 (Metatarsal)
	Slippery/Wet Surface	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Chemical resistant	<input type="checkbox"/> EH (Electrical Hazard)
	Explosive/Flammable Atmospheres	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		<input type="checkbox"/> SD Type I or II (Static Dissipative)
Electrical	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Hand	Chemical Exposure	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/> Work Gloves	<input type="checkbox"/> Rubber Gloves
	High Heat or Cold	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Leather Gloves	<input checked="" type="checkbox"/> Nitrile Gloves
	Cuts/Abrasion	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Latex Gloves	<input type="checkbox"/> Insulated Gloves
	Puncture	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Vinyl Gloves	<input type="checkbox"/> Metal Mesh Gloves
	Electrical Shock	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Neoprene Gloves	
	Bloodborne Pathogen	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Butyl Gloves	
Body/Torso	Chemical Exposure	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Tyvek Suits: <input type="checkbox"/> White or <input type="checkbox"/> Yellow	
	Extreme Heat/Cold	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> UV Protection	<input type="checkbox"/> First Aid Kit
	Abrasion	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Coveralls	<input type="checkbox"/> Traffic Cones
	Impact	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Reflective Vest	<input type="checkbox"/> Signage
	Electrical Arc	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Insect Repellent	<input type="checkbox"/> 2- Way Radios
	Biological Hazards	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Tick Removal Kit	<input type="checkbox"/> Flashlight
Fall	Fall Hazard	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Harness	<input type="checkbox"/> Fall Protection Lanyard
Noise	Noise Hazard	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/> Ear Plugs	<input type="checkbox"/> Ear Muffs



SITE HEALTH AND SAFETY PLAN

Respiratory	Chemical Exposure	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	<input type="checkbox"/> Respirator: <input type="checkbox"/> ½ Face or <input type="checkbox"/> Full Face <input type="checkbox"/> Cartridge: <input type="checkbox"/> P or <input type="checkbox"/> OV or <input type="checkbox"/> C
	Confined Spaces	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
	Particulate Exposure	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
	Welding Hazard	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

SITE CONTROL

Site Control/Site Security¹:	Fencing around project site by Client/Property Owner	M & PT: <input type="checkbox"/> Y <input type="checkbox"/> N <i>If yes, sketch information on separate sheet</i>
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Confined Space Entry: Y N
If Yes, Attach Permit

Decontamination: Y N
If Yes, Describe See Section 5.0 of Work Plan

Site Monitoring²: Y N
If Yes, Describe

CONTINGENCY PLAN

Emergency Contacts:	Police: 911 Ambulance: 911 Fire: 911 Hospital: 518-243-4235	Client Contact: Mark Normandin Client Phone #: 518- 862-9133 CHA PM Phone #: 518-453-2897 Poison Control: 800-336-6997
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Route to Hospital: See Attached

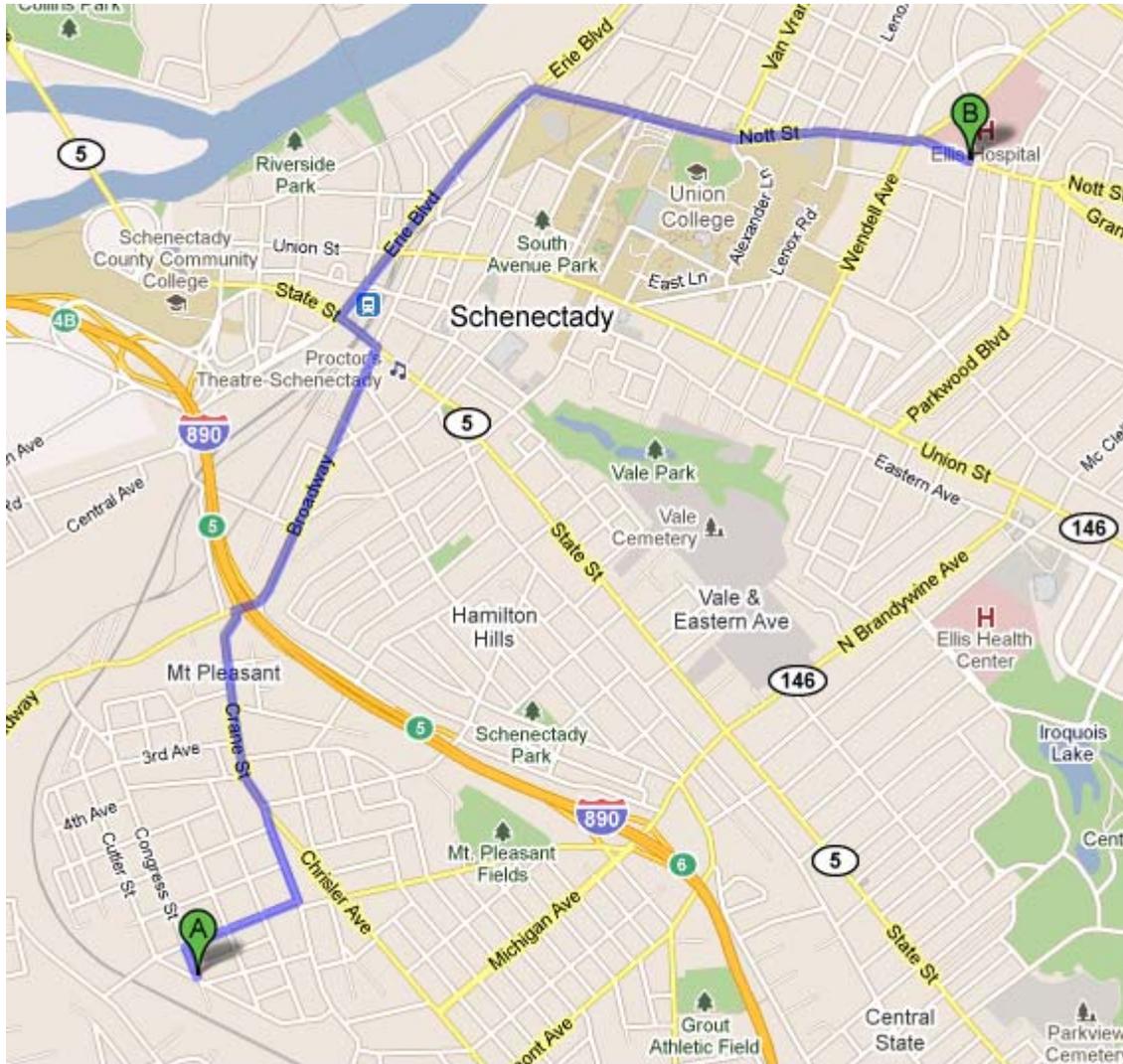
Communication: Cell Phone Nearest Pay Phone Pager

COMMENTS: ALL SAFETY REQUIREMENTS SET FORTH IN THE "CONTRACTORS HANDBOOK FOR CSX ROADWAY WORKER PROTECTION" NEED TO BE FOLLOWED WHEN WORKING ON CSX PROPERTY.

PLAN SIGN-OFF

Name:	Name:	Name:	Name:
X:	X:	X:	X:
Date:	Date:	Date:	Date:
Name:	Name:	Name:	Name:
X:	X:	X:	X:
Date:	Date:	Date:	Date:

MAP TO ELLIS HOSPITAL



DRIVING DIRECTIONS

1. Head **northwest** on **Congress St** toward **Hodgson St** 371 ft
2. Take the 2nd right onto **8th Ave** 0.3 mi
3. Turn left onto **Crane St** 0.7 mi
4. Turn right onto **Broadway** 0.7 mi
5. Turn left onto **State St** 0.1 mi
6. Take the 1st right onto **Erie Blvd** 0.7 mi
7. Turn right onto **Nott St**
Destination will be on the left 1.0 mi

