

REMEDIAL DESIGN WORK PLAN

Digital Alert Systems
Formerly Monroe Electronics
100 Housel Avenue
Lyndonville, New York 14098

NYSDEC Site #837013

Prepared for:

Digital Alert Systems
100 Housel Avenue
Lyndonville, NY 14098

Prepared by:

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January 2020

870.001

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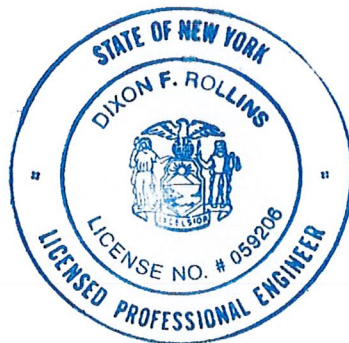
Certification

I, Dixon Rollins, P.E., am currently a registered professional engineer licensed by the State of New York and certify that this Remedial Design Work Plan was prepared in full accordance with all applicable statues and regulations and in substantial conformance with the Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation (DER-10).

59206
NYS Professional Engineer #

12/30/19
Date

Dixon Rollins
Signature



1.0 Introduction

This Remedial Design Work Plan (“RDWP”) is being submitted by Leader Professional Services, Inc (“Leader”) on behalf of Digital Alert Systems (formerly Monroe Electronics, Inc.) to the New York State Department of Environmental Conservation (“NYSDEC”) for the Site #837013 (“Site”). The Site is located at 100 Housel Avenue in Lyndonville, Orleans County (see Figure 1).

1.1 Site Background and History

The Site is in Lyndonville, New York, a small village in rural Orleans County approximately 4 miles south of Lake Ontario. The Site is situated on a 10.1-acre parcel (Orleans County Tax Map ID 24.16-1-2) at the end of Housel Avenue. The developed portion of the property contains two structures, a one-story 15,900-square foot manufacturing building built circa 1960 (occupied by Digital Alert Systems) and a one-story 500-square foot residential building, built circa 1940, south of the manufacturing building. The manufacturing building is constructed on a concrete block and slab on-grade foundation (i.e., no basement), except for the north-central portion of the building where a crawl space exists beneath the manufacturing area. The manufacturing building is primarily a wood-framed building, although the western portion of the building consists of a metal sided addition to the original building. The residence is a wood-framed structure with a crawl space beneath most of the building. Both the residence and manufacturing building are connected to public sewer and water supply. There are gravel parking areas south and east of the structures, and a gravel access driveway extends south of the on-site buildings to Housel Avenue. The on-Site area along either side of the driveway is vacant, cleared land. Along the northern property boundary (between Digital Alert Systems and the Bowman Apple facility) there is a drainage swale, oriented east west. See Figure 1.

The Site is currently zoned Light Industrial. Current use of the property is primarily for manufacturing (light machining, component assembly, and testing). The small residential structure on the property is currently unoccupied. Land use surrounding the Site consists of commercial apple processing and storage operations to the north (Bowman Apple and H.H. Dobbins, Inc.), L.A. Webber Middle-High School to the south, and agricultural land abutting the site to the west. A cemetery abuts the site to the east.

Monroe Electronics (now Digital Alert Systems) occupied the Site since 1972 and is involved in the manufacture of electrostatic measuring instruments and other electronic devices. Before Monroe Electronics operated here, the property was the site of the former DuPont/Barre Lime and Sulfur Company where various pesticide sprays and dust mixtures were formulated. Based on historic photographs, a significant portion of the property and surrounding land was used for apple orchards.

In September 1986, Monroe Electronics submitted a completed Hazardous Waste Disposal Questionnaire as a requirement of a Community Right-to-Know survey. In the survey, Monroe Electronics indicated that they disposed 1.0 to 4.0 tons of 1,1,1-trichloroethane (TCA) at their Housel Avenue facility. TCA is a volatile organic compound (VOC) and industrial solvent used for cleaning and degreasing components in the manufacturing process. The disposal area and resulting contamination source were not indicated on the survey form, however, conversations with the owner/plant manager during the Remedial Investigation (RI) indicate that disposal occurred outside a former exterior door at the west end of the original building in the early 1970s. A metal-sided addition to the building was constructed over the disposal area after the waste was discarded. The owner also indicated that TCA and waste oil was spread along the driveway on the east side of the building.

Another Registry site located nearby is the Lyndonville-West Avenue site (Site No. 837002). This site originally included the Monroe Electronics property before its boundaries were modified and Monroe Electronics became a separate site. The contaminants of concern at the Lyndonville-West Avenue site were pesticides and arsenic originating from the former DuPont/Barre plant. Pesticide and arsenic contamination were confirmed in a nearby landfill and drainage ditch during the Lyndonville-West Avenue RI (completed by Dupont), however, these investigations did not show consequential amounts of pesticide and/or arsenic on the Monroe Electronics property and the contaminants of concern were subsequently removed from the Lyndonville-West Avenue site. Subsequent investigations by the NYSDEC confirmed the presence of chlorinated solvents on the Monroe Electronics property (unrelated to Lyndonville-West Avenue), which led to its listing on the Registry in 2002.

The Site is located within the gently sloping plains of the Central Lowland Physiographic Province between the Lockport Escarpment and Lake Ontario. Overburden deposits beneath the study area include a medium fine sand (approximately 5.0 to 15.0 feet thick), lacustrine clay (approximately 8.0 to 9.0 feet thick), glacial till (approximately 3.0 to 4.0 feet thick) and weathered red shale (approximately 5.0 feet thick). Bedrock was encountered below the weathered shale approximately 22.0 to 32.0 feet below ground surface (bgs) and is described as brown to red siltstone overlying a gray shale. In general, bedrock was largely competent with relatively few fractures and consists of Queenston Shale, a highly impermeable formation.

Three distinct water-bearing units were observed. The shallowest is a perched water-bearing zone encountered above the clay unit. Groundwater was also encountered within the weathered shale and within the bedrock unit. The depth to groundwater ranges from approximately 3.0 to 6.0 feet bgs in shallow wells and from approximately 3.0 to 11.0 feet bgs in bedrock wells. Based on water level measurements the predominant groundwater flow direction in the shallow overburden and bedrock is toward the north.

2.0 Investigations to Date

2.1 Remedial Investigation/Feasibility Study Results

A Remedial Investigation (RI) was completed in 2014. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities were conducted during the RI:

- Research of historical information;
- Geophysical survey to determine the lateral extent of wastes;
- Test pits, soil borings at the Site, and monitoring well installations;
- Sampling of waste, surface and subsurface soils, groundwater and soil vapor;
- Sampling of surface water and sediment; and
- Ecological and Human Health Exposure Assessments.

The analytical data collected at the Site includes:

- Groundwater
- Drinking water
- Soil
- Indoor air
- Sub-slab vapor

Several contaminants of concern were identified in the RI sampling analysis results. A contaminant of concern (“COC”) is a hazardous substance or naturally occurring element that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are COCs. The nature and extent of contamination and environmental media requiring action are summarized in the RI. Additionally, the RI Report contains a full discussion of the data. The COCs identified at the Site are:

- trichloroethene (TCE)
- 1,1,1-trichloroethane
- chloroethane
- arsenic
- 1,1-dichloroethane
- 1,1 dichloroethene
- 1,1,2-TCA
- 1,2-dichloroethane
- cis-1,2-dichloroethene
- trans-1,2-dichloroethene

The applicable SCGs were exceeded for:

- Groundwater
- Soil
- Soil vapor intrusion

2.2 Interim Remedial Measures

There were no IRMs performed at this site during the RI.

2.3 Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the Site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at the Site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

The Nature and Extent of Contamination: The RI included testing of surface soil and subsurface soil samples for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. Arsenic is a COC found in the surface soils south and east of the Site's manufacturing building, see Figure 2. Groundwater was found to be impacted by the presence of chlorinated VOCs ("CVOCs"). The distribution of the CVOCs in the groundwater zones is shown for shallow monitoring wells (Figure 3), deep monitoring wells (Figure 4) and bedrock monitoring wells (Figure 5). Sampling of the sub slab, soil vapor and indoor air indicate that soil vapor beneath the building has been impacted. While concentrations of VOCs in the indoor air are within background concentration ranges and do not exceed NYSDOH guidelines, Soil Vapor Intrusion (SVI) is a potential concern in the on-site facility building due to the elevated sub-slab concentrations.

2.4 Record of Decision

The Record of Decision (ROD) was finalized in March 2016 and selected Remedial Alternative 3 (Enhanced In-Situ Bioremediation (EISB) and In-Situ Chemical Reduction (ISCR), Soil Cover, Groundwater MNA, Indoor Air Monitoring and ICs). Specifically, the ROD mentions that the selected remedy must be protective of human health and the environment, be cost effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the Remedial Action Objectives ("RAO") identified for the site, which are presented in Section 6.5 of the ROD. The basis for the NYSDEC's remedy is set forth in Exhibit D of the ROD.

3.0 Identification of Applicable NYSDEC Standards, Criteria, and Guidance and Permit Requirements

The design must conform to promulgated standard, criteria and guidance (SCGs) that are directly applicable or that are relevant and appropriate. To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media specific SCGs. The NYSDEC has developed SCGs for groundwater, surface water, sediments and soil and the NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The applicable SCGs for this site are related to groundwater, soil and soil vapor.

Groundwater quality will be measured to the standards and guidance values as they are authorized in Title 6 of New York State's Codes Rules and Regulations Part 703 and NYSDEC Division of Water Technical and Operational Guidance Series ("TOGS") No. 1.1.1-Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

Soil cleanup objectives will be measured to the standards and guidance values as they are authorized in 6 NYCRR Part 375, following the restricted use commercial soil cleanup objectives.

Based on the concentrations detected and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, implementation of an indoor air monitoring program as part of the Site Management Plan will be needed to address soil vapor intrusion in the on-site manufacturing building. Indoor air and/or sub-slab vapor samples would be collected on an annual basis during the heating season and the analytical results evaluated in accordance with NYSDOH guidance. If necessary, additional actions to address exposures related to soil vapor intrusion would be implemented.

Permit coverage under GP-0-15-002 may be required since it is anticipated that more than one acre of soil could be disturbed during this project. A stormwater pollution prevention plan (SWPPP) will be prepared and a Notice of Intent (NOI) submitted as appropriate.

4.0 Description of Design

4.1 Basis for Design

The NYSDEC selected Alternative 3, Enhanced In-Situ Bioremediation/Chemical Reduction as the remedy for this Site's groundwater contamination. According to the NYSDEC, Alternative 3 achieves the remediation goals for the site by injecting an engineered suite of bioamendments/bioaugmentations and chemical reducing agents into the subsurface designed to enhance the rate of biological and abiotic dechlorination of CVOCs in groundwater. The remaining remediation goals will be achieved by restricting groundwater use until SCGs are achieved.

The ROD identifies a soil cover and the blending of contaminated surface soils to meet commercial SCOs as the remedy, to prevent exposure and managing residual contamination.

The implementation of a long-term groundwater remediation and soil vapor intrusion ("SVI") monitoring program was selected as actions recommended to address potential exposures related to SVI.

4.2 Goals

The goal of this project is to remediate the Site to the point the groundwater and soil conditions are protective of human and environmental health. To meet this goal several secondary objectives must be satisfied:

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards;
- Prevent contact with or inhalation of volatiles from contaminated groundwater;
- Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable;
- Prevent ingestion/direct contact with contaminated soil;
- Prevent migration of contaminants that would result in groundwater or surface water contamination; and
- Mitigate impacts to public health resulting from existing, or the potential for, SVI into buildings at the site.

Ideally, the remediation of the groundwater should continue until the contamination reaches a concentration(s) which is below the NYSDEC groundwater quality standards found in TOGS 1.1.1 "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations."

4.3 Details of Design

The selected alternative includes the following design aspects.

4.3.1 Enhanced Bioremediation

Enhanced in-situ bioremediation (EISB) will be employed to treat CVOCs (primarily TCA, TCE and associated daughter compounds) in overburden and bedrock groundwater in the up- and downgradient area of the suspected source area located beneath the manufacturing building. Groundwater exhibiting concentrations of total CVOCs greater than 1,000 ug/L will be targeted.

The biological breakdown of contaminants through anaerobic reductive dechlorination, which is already occurring naturally, will be enhanced by the injection of a controlled-release carbon source (e.g. lactate or emulsified vegetable oil), electron donor (sulfate), and pH buffer to stimulate microbial growth. In addition to these bioamendments, bacterial cultures (bioaugment) may be injected into the subsurface via injection wells to "seed" the aquifer with appropriate microbes necessary for complete metabolization of CVOCs.

During design, ground water samples will be collected to assess the current state of contamination and allow for refinement of the enhanced bioremediation strategy. In addition, pilot injection wells may be drilled to determine the feasibility of the delivery of the EISB chemicals. Groundwater samples will be collected from approximately 5-7 monitoring wells, including MW-2, MW-3B, MW-10B, MW-9, and MW-105B which are monitoring wells in each of the contaminated groundwater layers. The results will be representative of the groundwater conditions not only in those groundwater layers but representative up and down gradient groundwater conditions. Each sample will be analyzed for USEPA's Target Compound List VOCs and the following parameters: pH, temperature, conductivity, dissolved oxygen, ORP, TOC, total dissolved iron, nitrate, sulfate and dissolved gases such as methane, ethane, and ethene in select wells. Also, a baseline sample for microorganisms from selected wells will be collected. This approach will assess whether the degradation of the source contaminants has continued or changed since the last sampling event. The results of this analysis will determine the appropriate treatment required. In addition, we will sample the following emerging contaminants (ECs): per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane in accordance with the most recent NYSDEC guidelines. Leader will work with the NYSDEC in choosing the number of wells and any guidance on the specifics for sampling these contaminants.

Sampling will be conducted in accordance with the project's Quality Assurance Project Plan ("QAPP") and Site Health and Safety Plan. The QAPP will be provided as part of the final design. Sampling will use a low flow pump and flow through cell to measure field parameters to identify when groundwater quality (in terms of the field parameters) has equilibrated. The consistency of field parameter values will indicate when sampling can occur.

During the design phase sampling, injection points will be located for utility clearances.

Prior to the collection of groundwater samples, each monitoring well will be purged to redevelop the screen zone (or bedrock interval), while measuring the following chemical/physical parameters: temperature, conductivity, pH, oxidation-reduction potential and dissolved oxygen. Purging and sampling will be done using either a peristaltic pump or a submersible electric pump, where the discharge flow rate can be controlled to simulate low flow sampling conditions. Wastewater from the purging will be containerized for disposal off-Site.

Several monitoring wells not involved with the sampling, will be tested to determine the range of hydraulic conductivity of the tested groundwater zone. Testing will involve monitoring the groundwater elevation with either an electronic water level indicator or pressure transducer. Once the water level has stabilized, a known quantity of water (1 to 5-gallons of potable water) will be dumped into the well. Water level measurements will be collected during the drop of the water level back to the static level. Measurement will be collected in intervals ranging from 10-seconds to 1-minute until static conditions return. Data will be analyzed using Bouwer and Rice's solutions for water table conditions and Cooper, Bredehoeft and Papadopulos slug test solutions in confined aquifers, and provide an estimated value for hydraulic conductivity in the tested interval. Each test will be conducted approximately three times or more to determine a potential average for the tested interval. These results will be used to estimate the initial injection spacing.

The approximate location and number of injection wells for the bedrock aquifer were identified in the Feasibility Study (see Figure 6), although we note our final design will likely use a different number and location of wells than are shown in the Feasibility Study. At this time the injection wells will be drilled adjacent to the north and west perimeter of the manufacturing building in addition to some locations immediately south of the building to ensure effective treatment of the affected soils beneath the building. In addition, several injection wells will be drilled to the east of the manufacturing building, near MW-105 and MW-105B to address a different contaminated area of groundwater. Injection wells will originally be spaced approximately 10.0 feet on center while we assess hydraulic communication between the initial wells. Depending on initial results, well spacing may be increased or decreased for subsequent wells and as subsurface hydrology is assessed. Depth of wells will be determined during the design but in general will be designed to be as deep or deeper than the depth location of contamination. Multiple injections of bioamendments and bioaugmentations may be required to achieve RAOs.

4.3.2 In-Situ Chemical Reduction

In-situ chemical reduction (ISCR) will be implemented to supplement the bioremediation groundwater remedy to further treat CVOCs in overburden and bedrock groundwater. A chemical reducing agent (e.g., zero-valent iron particles in solution) will be injected into the subsurface following or concurrent with the introduction of bioamendments and bioaugmentations to boost the rate of abiotic dechlorination of CVOCs in groundwater. This process will leverage the same injection wells used for EISB, and the spacing and depth of wells will be finalized during the initial injection and testing process, once communication between initial wells has been assessed.

4.3.3 Cover System and Soil Remediation

The soil contamination affects undeveloped portions of the Site and the cover system will be used as a remedy. The soil cover system consists of clean subsurface soils brought to the surface (soil turning) or importing clean soil as a soil cover. The soil turning approach removes and temporarily stockpiles the top 0-6 inches of soil, followed by removal and temporary stockpiling of the next 1-2 feet of clean soil. The contaminated soil is then placed down and covered with the 1-2 feet of clean soil. The soil turning approach replaces the surface soil in the upper six inches with clean soil from lower soil horizons (up to two feet below ground surface) to produce a viable cover material, without needing to bring additional clean fill from offsite.

This approach will be applied in areas where the 0-2 inches of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs). The 0-2-inch soil samples will be collected at the locations shown on Figure 7 using a dedicated sample spoon or probe which may require decontamination between sample locations. These samples will be analyzed for Arsenic by a NYSDOH certified laboratory. Figure 2 depicts the three areas (Area A, Area B and Area C) currently targeted for shallow soil turning.

We plan to divide Area A into a north section and south section. For the north section, we will push the top 0-6 inches of contaminated soil to a stockpiled area north of Area A. For the south section, we will push the top 0-6 inches of contaminated soil to a stockpiled area south of Area A. We will then push the 1-2 feet of clean soil to stockpiled areas west of Area A. The same approach will be used for the smaller areas (i.e., Area B and Area C). Following the removal of the soils, we will push the contaminated soils back onto Areas A, B, and C and then finish by pushing the clean soil on top of the contaminated soils.

To avoid erosion and exposure, we will place the stockpiled soil on and cover the piles with plastic sheeting of at least 10 mil. Decontamination procedures will be included in our final excavation plan and will include a decontamination zone next to the contaminated soil stockpile(s) to shovel off any contaminated dirt that is stuck to the excavation equipment (e.g., bulldozer). The removed dirt from any equipment that has the potential for contamination will be combined with the contaminated soil stockpile to be buried under the clean soil.

To ensure this approach will provide a viable, clean soil cover, during the design phase of the project Leader will perform sampling of the subsurface soil (i.e., in the 1-2-foot range below ground surface) prior to any intrusive activity, following the recommended guidelines outlined in CP-51. We anticipate collecting and analyzing approximately 10 discrete samples for arsenic and up to 5 samples for VOCs. In addition, we will collect surface samples around the perimeter of the targeted areas to delineate the scope of soil remediation. We anticipate collecting and analyzing approximately 20 surface soil samples as shown in Figure 7 to delineate the three areas for soil turning. Soil samples will be collected using a direct push sampling method. Each sample will be visually inspected and screened using an organic vapor analyzer with a photoionization detector (“PID”). Samples

for Arsenic analysis will be collected and submitted to a NYSDOH certified laboratory along with quality assurance samples. We will work with the NYSDEC to refine the appropriate number of samples prior to conducting the work.

During the implementation of the design, following the soil turning process, Leader will sample the soil at approximately 10-20 locations in the first 12 inches of soil to verify the Arsenic levels have been lowered to the soil cleanup objectives. Samples will be collected at both 0-2-inch depth and the 1-foot depth. The final surface will then be graded and hydroseeded.

Leader will develop and implement a Community Air Monitoring Program (CAMP) during the soil removal process.

Waste Disposal

During the installation of the injection wells and during each groundwater sampling event, wastewater and soil debris requiring offsite treatment and disposal will be generated. No wastewater generated will be discharged to the publicly owned sewer system. Waste, if hazardous as per 6 NYCRR Part 371 will be managed in accordance with Parts 373-1 and 372. The exact quantities of wastewater and soil requiring disposal will be confirmed during the design and will be based on baseline sampling results. We currently assume that any waste generated will be potentially hazardous waste. The waste analysis will determine how the material is handled. Samples for waste characterization will be collected during the baseline sampling and again, as needed during the implementation of the remedial plan.

5.0 Quality Assurance Project Plan

The purpose of the QAPP is to establish procedures using appropriate test methods (or standards) and detection limits (or units of measure) to meet the project's objectives.

5.1 Project Objectives and Data Quality Objectives

The purpose of the remediation is to:

1. Remediate the Site's contaminated groundwater using injection materials to improve site conditions and stimulate indigenous microorganisms to degrade PCE, 1,1,1-TCA, and their breakdown products. The goal is to have the groundwater quality improve to meet NYSDEC's TOGS groundwater quality criteria.
2. Remediate the site's contaminated soil by blending contaminated soil with clean soil from deeper soil horizons. The goal is to improve soil quality to meet 6 NYCRR Part 375-6 SCO for commercial properties for arsenic.

By completing these activities, the project's RAO's will be achieved.

Since this project involves the injection wells, sampling the groundwater, and a turning of contaminated soil containing arsenic, there will be different objectives depending on the project activity. The different project activities are described in the following sections.

5.1.1 Groundwater Sampling

Groundwater quality will be evaluated by measuring the selected parameters including field parameters, USEPA TCL volatile organic compounds, total inorganic carbon (alkalinity), Methane, Ethene, and Ethane.

5.1.1.1 Sample Collection and Analysis

Groundwater sampling and analysis will be used to evaluate remediation progress. Sampling will be completed one month following the injection of material and then quarterly. For the one-month milestone, only field parameters will be measured in the monitoring wells. Quarterly measurements will involve all monitoring wells and all parameters.

Specific sampling procedures are provided in Appendix B and include pumping each monitoring well using a low flow sample pump and using a flow through cell and portable field instrument to monitor field parameters. Monitoring field parameters will be done during well purging and measured until these parameters are stable (fluctuating less than 10-percent taken at 10-minute monitoring intervals).

The prepared sample containers will be placed on ice to maintain the temperature at approximately 40°F in a shippable container and then shipped for next day delivery to the laboratory.

Analysis of the samples will follow USEPA and ASTM procedures. TCL volatile organic compounds will be analyzed using USEPA Method 8260. Detection limits for TCL volatile organic compounds will be equivalent to NYSDEC's Analytical Services Protocol for the same analysis. Bioremediation specific parameters will be analyzed using the following methods and detection limits:

- Total Inorganic Carbon as Alkalinity, Method 301.1, detection limit of 1 milligram per liter;
- Ethane, AM20-GAX, detection limit per liter 0.025 micrograms per liter;
- Ethene, AM20-GAX, detection limit per liter 0.025 micrograms per liter; and
- Methane, AM20-GAX, detection limit per liter 0.1 micrograms per liter.

5.1.2 Soil Sampling

Soil cleanup objectives will be measured to the standards and guidance values as they are authorized in 6 NYCRR Part 375, following the restricted use commercial soil cleanup objectives.

5.1.2.1 Sample Collection and Analysis

Soil sampling and analysis will be used to evaluate remediation progress. Soil samples collected in the 0-2-inch zone will be collected using a dedicated sample spoon or probe which may require decontamination between sample locations. These samples will be analyzed for Arsenic by a NYSDOH certified laboratory.

To ensure this approach will provide a viable, clean soil cover, during the design phase of the project Leader will perform sampling of the subsurface soil (i.e., in the 1-2-foot range below ground surface) prior to any intrusive activity, following the recommended number of soil samples outlined in CP-51. Based on an anticipated contaminated soil area of 80,000 square feet, and one foot of soil depth (i.e., the 1-2-foot range), we anticipate collecting and analyzing approximately 10 discrete samples for arsenic and up to 5 samples for VOCs. In addition, we will collect surface samples around the perimeter of the targeted areas to delineate the scope of soil remediation. We anticipate collecting and analyzing approximately 20 surface soil samples as shown in Figure 7 to delineate the three areas for soil turning. Soil samples will be collected using a direct push sampling method. Each sample will be visually inspected and screened using an organic vapor analyzer with a photoionization detector ("PID"). Samples for Arsenic analysis will be collected and submitted to a NYSDOH certified laboratory along with quality assurance samples. We

will work with the NYSDEC to refine the appropriate number of samples prior to conducting the work.

During the implementation of the design, following the soil turning process, Leader will sample the soil at approximately 10-20 locations to verify the Arsenic levels have been lowered to the soil cleanup objectives.

6.0 Reporting

During the design phase of the project, monthly progress reports and a design report will be prepared. Since the baseline groundwater sampling will also incorporate the sampling and analysis of 1,4-dioxane and PFOAs emerging contaminants, when the results are obtained these will be shared with NYSDEC as a part of a monthly progress report and uploaded into the NYSDEC EQuIS database meeting the required detection limits. A Data Suitability Summary Report will be prepared for all laboratory data.

The project reporting will also involve the collection of field notes. Field notes (for the design phase or remediation stage) for the project will be placed in a bound field book. Notes will be entered at a minimum of 30-minute increments during the workday and will include activities, discussions, calculations, findings, and conclusions.

Each month a project report will be prepared discussing the past month's activities and the expected activities for the current month. When a monthly report includes sample results, a table will be prepared of the monitoring well results or soil sample results and a written summary of the findings.

Leader will develop a SMP that ensures IC and ECs remain in place and effective.

7.0 Project Management

Matthew Drury, P.E. of Leader, will serve as the Project Manager for this project. Mr. Drury will be responsible for field activities, coordination with the Site, and NYSDEC, and the preparation of the final reports.

The NYSDEC Project Manager for this project is Gail Dieter. Ms. Dieter can be reached at 518-402-9645.

Leader's sampling and report preparation efforts will be supported by the following staff.

Project Director:	Michael Rumrill Principal
Project Engineer:	Matthew Drury, PE Senior Project Manager
Quality Assurance and Quality Control:	Peter von Schondorf, PG

Leader's office telephone number is 585-248-2413.

8.0 Project Schedule

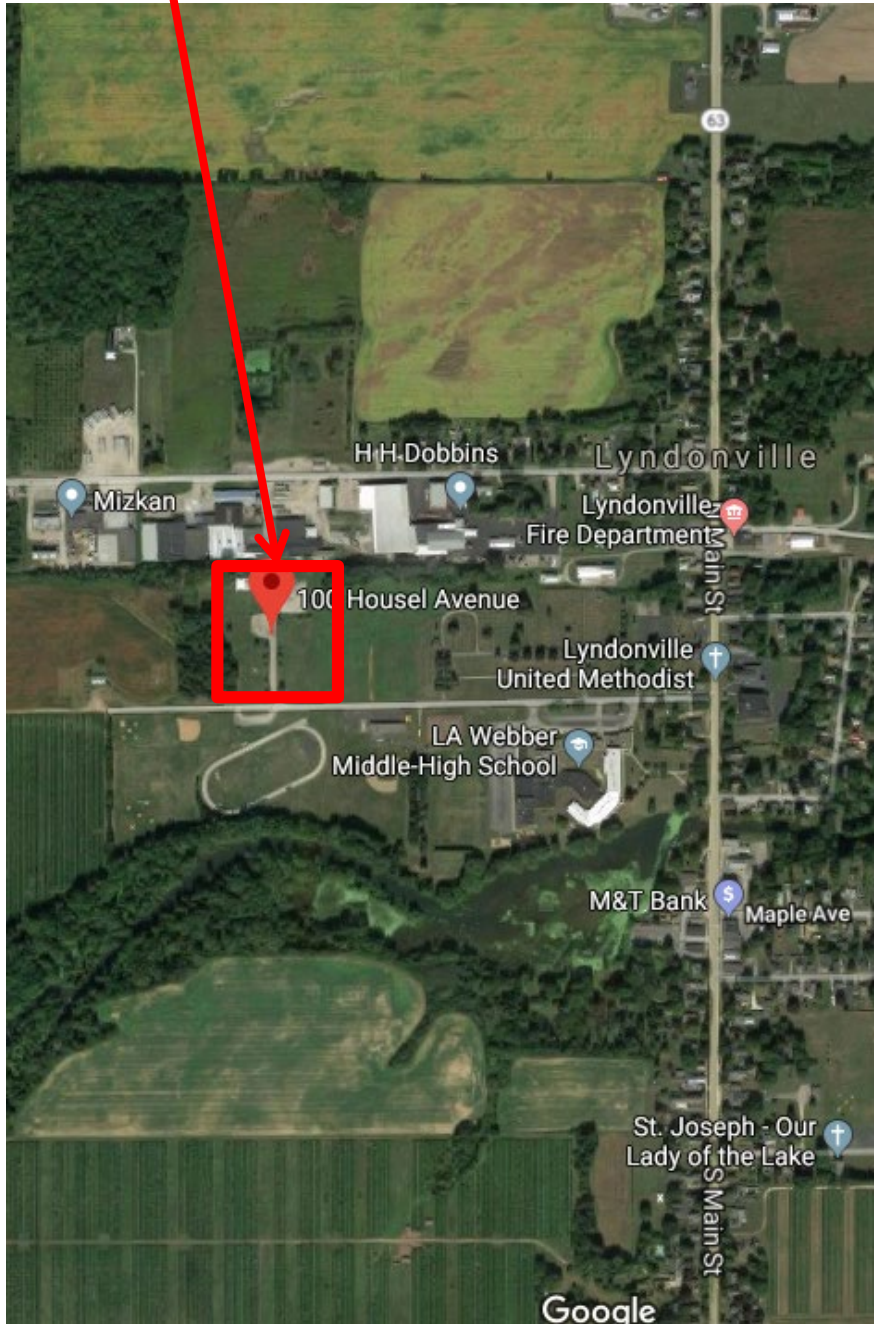
The schedule for the project is presented below. The duration of the project to completion will be approximately 4-6 years.

Project Schedule

Task/Activity	Approximate Date
Remedial Design	March 2020
Monthly progress reports	March 2020 – May 2025
Begin remediation activities	March 2020 (weather dependent)
Complete remediation activities	May 2020 (weather dependent)
Weekly reports to NYSDEC during remediation activities	March 2020-May 2020
Monthly progress reports	November 2020 – May 2025
Quarterly groundwater monitoring reports	
Semi-annual indoor air quality reports	
Annual site inspections	

FIGURES

Approximate Site Location



Title: Site Location Map
Digital Alert Systems
Lyndonville, New York

Prepared For: Digital Alert Systems
100 Housel Avenue
Lyndonville, New York



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Project 870.001

Date 10/2019

Scale NTS

Drawn MGD

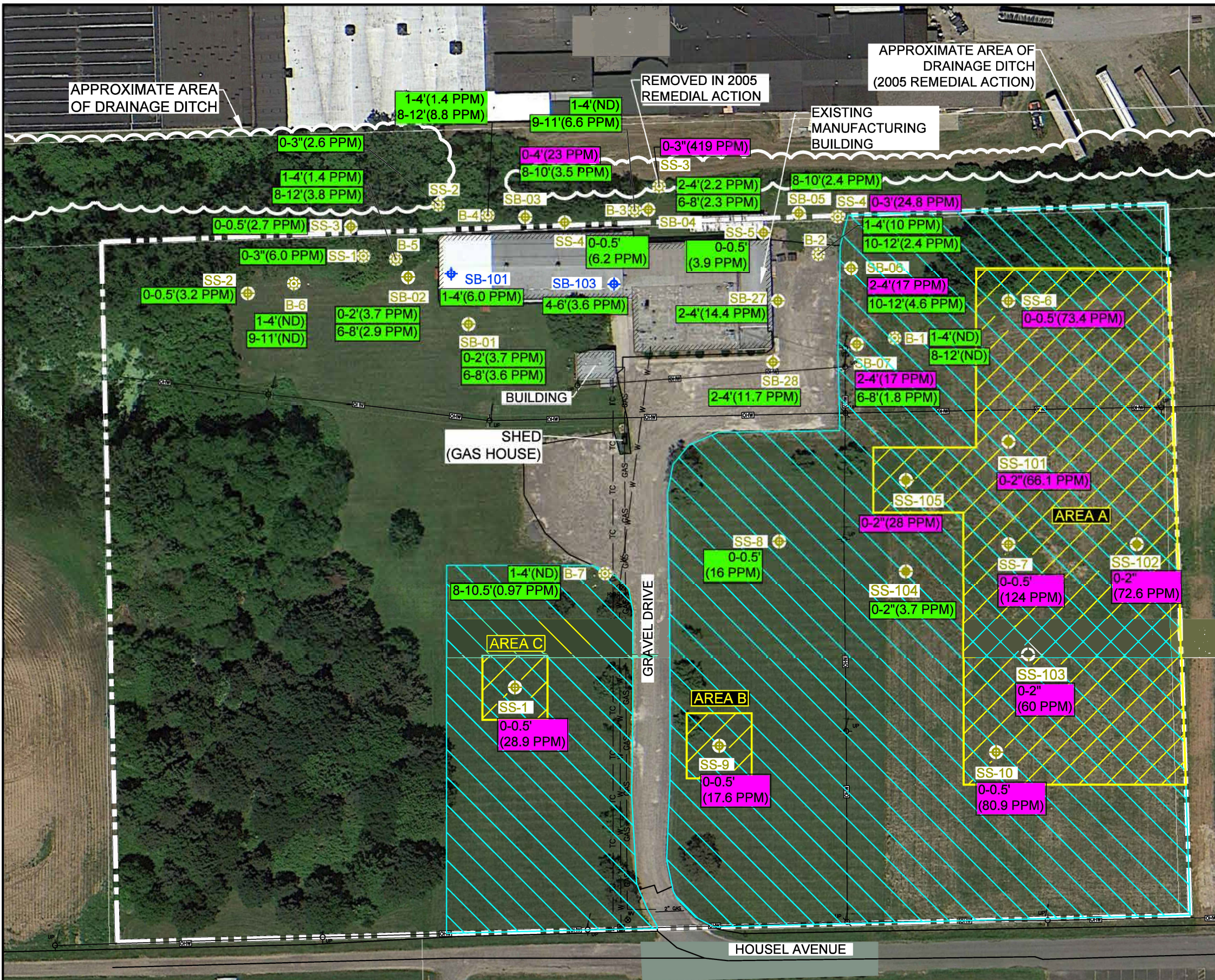
Checked MPR

File Name Site Map

Figure

1

Path Name: I:\Projects\WYSDCC\Assignments\WA #19 - Monroe Electronics\Feasibility Study\TRC Working Drawings\Figure 4 - Areas Targeted for Soil Remediation.dwg - Data\Time: Fri, 30 Oct 2015 - 3:35pm - User Name: hdelgado - Layout Tab: 11X17



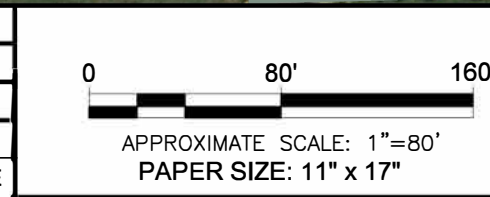
LEGEND (SYMBOLS NOT TO SCALE):

- SITE BOUNDARY
- BUILDING FOOTPRINT
- GAS LINE
- OVERHEAD WIRES
- TELECOMMUNICATIONS
- WATER LINE
- HYDRANT
- UTILITY POLE
- DIRECT PUSH SOIL BORING / GROUNDWATER GRAB SAMPLE LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
- SURFACE SOIL SAMPLING LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
- HISTORIC SURFACE SOIL SAMPLING LOCATION AND IDENTIFICATION NUMBER (SS-XX = AUGUST 2011) (SB-X = 1997)
- HISTORIC SURFACE SOIL SAMPLING LOCATION AND IDENTIFICATION NUMBER (2001)
- AREA TARGETED FOR SHALLOW SOIL EXCAVATION OR COVER (PRELIMINARY)
- AREA TARGETED FOR UNRESTRICTED SOIL REMEDIATION (PRELIMINARY)
- DEPTH IN FEET OR INCHES
CONCENTRATION OF ARSENIC IN PARTS PER MILLION (PPM)
- CONCENTRATION LESS THAN OR EQUAL TO 16 PPM ARSENIC
- CONCENTRATION GREATER THAN 16 PPM ARSENIC

NOTES:

1. BASE AERIAL PHOTOGRAPH FROM GOOGLE EARTH 2015.
2. 1997 TO 2011 SAMPLE LOCATIONS OBTAINED FROM SCANNED IMAGES AND MAPS PREPARED BY PRIOR CONSULTANTS. LOCATIONS ARE APPROXIMATE.
3. ONLY SAMPLING LOCATIONS WHERE ARSENIC ANALYSIS WAS PERFORMED ARE SHOWN.
4. AREAS TARGETED FOR SHALLOW SOIL REMEDIATION ARE PRELIMINARY. FINAL EXTENTS OF REMEDIATION WOULD BE DETERMINED BY PRE-DESIGN INVESTIGATION AND POST-EXCAVATION SAMPLING RESULTS.

NO.	DESCRIPTION	BY	DATE



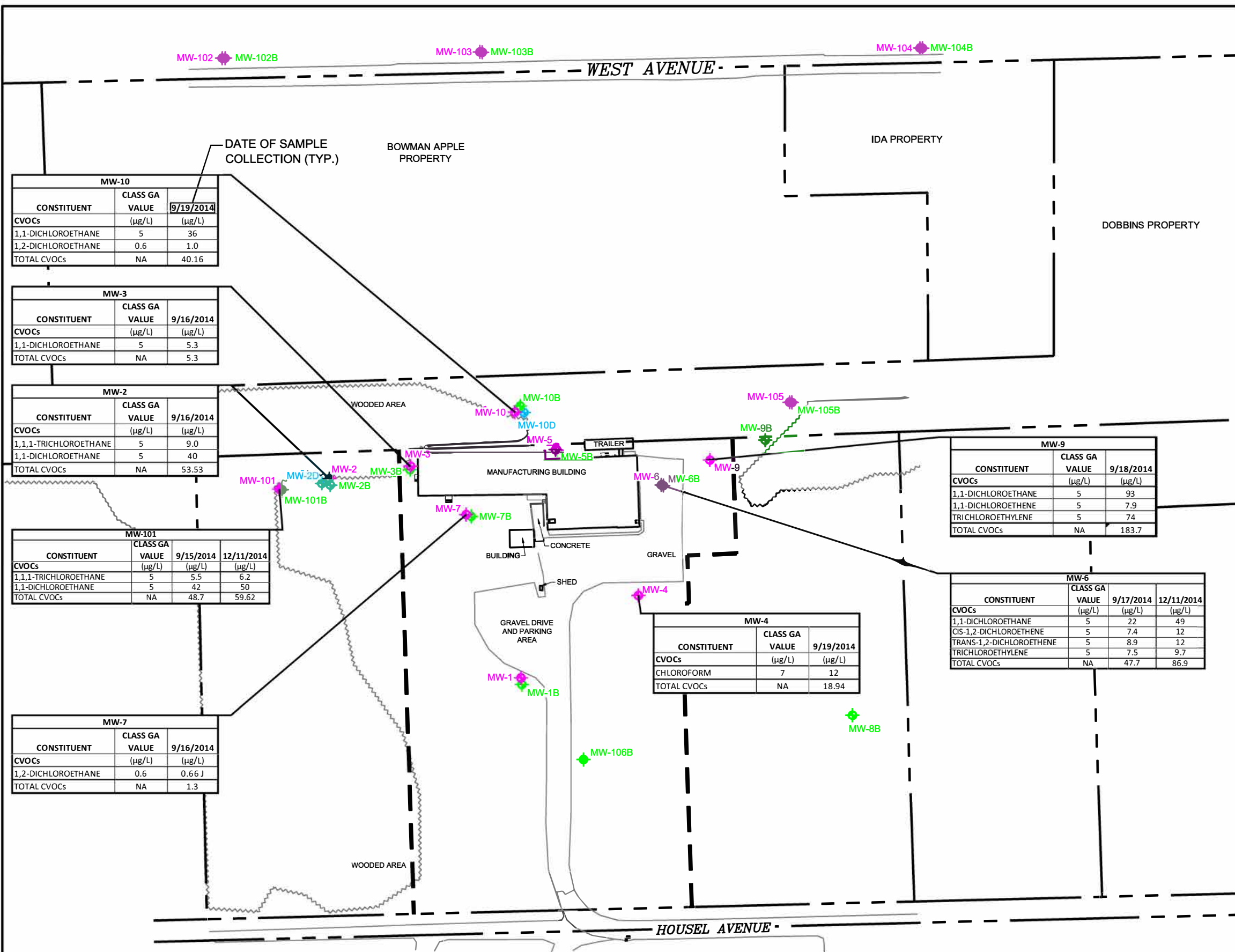
1430 BROADWAY, 10TH FLOOR
NEW YORK, NEW YORK 10018
212-221-7822

DESIGNED BY: JM / LM
DRAWN BY: HD
CHECKED BY: DSG
DATE: OCTOBER 2015
SCALE: AS SHOWN
PROJECT NUMBER: 219075.0000.0000

PROJECT NAME: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION FEASIBILITY STUDY MONROE ELECTRONICS - SITE NO. 837013 100 HOUSE AVENUE LYNDONVILLE, NEW YORK 14098
DRAWING TITLE: AREAS TARGETED FOR SOIL REMEDIATION

FIGURE
2

Path: \\NTAP-NC\environmental\Share\Projects\NYSDEC\Assignments\WA #19 - Monroe Electronics\Figures\TRC Working Drawings\Figure 10 - SRI - Sum. of Results of Anal. of GW for CVOCs - Shallow MW.dwg - Date: Tue, 24 Mar 2015 4:36pm - User Name: HDelegado - Layout Tab: 11X

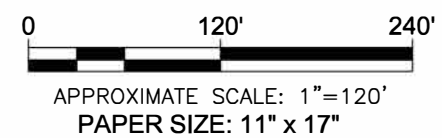


- LEGEND (SYMBOLS NOT TO SCALE):**
- PROPERTY BOUNDARY LINE
 - LOT BOUNDARY LINE
 - TREE LINE
 - BEDROCK MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
 - SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
 - EXISTING BEDROCK MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
 - EXISTING DEEP MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
 - EXISTING SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

- NOTES:**
- LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND PROPERTY BOUNDARIES ARE APPROXIMATE.
 - CLASS GA VALUE = NYSDEC AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES FOR CLASS GA WATER
 - ONLY RESULTS ABOVE CLASS GA VALUES SHOWN. (NOTE: TOTAL CVOCS SHOWN INCLUDE CONCENTRATIONS OF COMPOUNDS DETECTED AT < CLASS GA VALUES.)
 - µg/L = MICROGRAMS PER LITER
 - J = ESTIMATED VALUE
 - CVOCs = CHLORINATED VOLATILE ORGANIC COMPOUNDS
 - ALL SHALLOW MONITORING WELLS WERE SAMPLED IN SEPTEMBER 2014. THREE SHALLOW MONITORING WELLS (MW-6, MW-101, AND MW-105) WERE SAMPLED IN DECEMBER 2014.

SOURCE FOR SURVEY: YEC, INC., 2014.

NO.	DESCRIPTION	BY	DATE

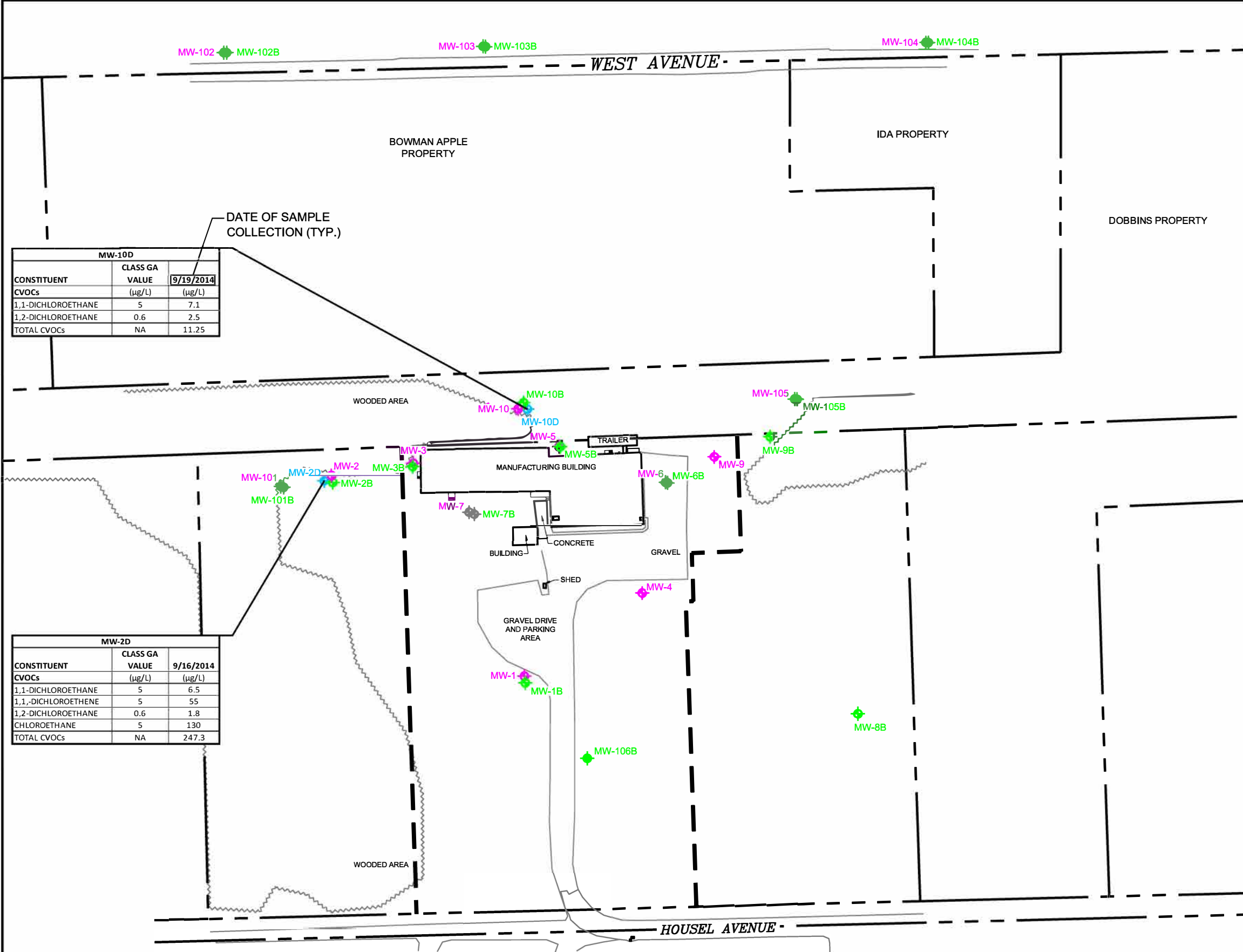


DESIGNED BY: LM
DRAWN BY: HD
CHECKED BY: DSG
DATE: MARCH 2015
SCALE: AS SHOWN
PROJECT NUMBER: 219075.0000.0000

PROJECT NAME: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT
 MONROE ELECTRONICS - SITE NO. 837013
 100 HOUSEL AVENUE
 LYNDONVILLE, NEW YORK 14098

DRAWING TITLE:
 SUMMARY OF RESULTS OF ANALYSIS OF GROUNDWATER FOR CVOCS
 SHALLOW MONITORING WELLS

Path: \\NTAPP-NC\Environmentals\Shared\Projects\NYSDEC\Assignments\WA #19 - Monroe Electronics\Figures\TRC Working Drawings\Figure 11 - Sum. of Results of Anal. of GW for CVOCs - Deep MW.dwg - Date: Tue, 24 Mar 2015 4:37pm - User: HDelegado - Layout Tab: 11X17



DATE OF SAMPLE COLLECTION (TYP.)

MW-10D		
CONSTITUENT	CLASS GA VALUE (µg/L)	9/19/2014 (µg/L)
1,1-DICHLOROETHANE	5	7.1
1,2-DICHLOROETHANE	0.6	2.5
TOTAL CVOCs	NA	11.25

MW-2D		
CONSTITUENT	CLASS GA VALUE (µg/L)	9/16/2014 (µg/L)
1,1-DICHLOROETHANE	5	6.5
1,1,1-DICHLOROETHENE	5	55
1,2-DICHLOROETHANE	0.6	1.8
CHLOROETHANE	5	130
TOTAL CVOCs	NA	247.3

LEGEND (SYMBOLS NOT TO SCALE):

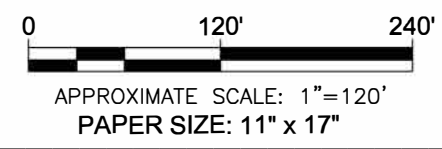
- PROPERTY BOUNDARY LINE
- LOT BOUNDARY LINE
- TREE LINE
- BEDROCK MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
- SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (AUGUST 2014)
- EXISTING BEDROCK MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- EXISTING DEEP MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- EXISTING SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND PROPERTY BOUNDARIES ARE APPROXIMATE.
2. CLASS GA VALUE = NYSDEC AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES FOR CLASS GA WATER
3. ONLY RESULTS ABOVE CLASS GA VALUES SHOWN. (NOTE: TOTAL CVOCs SHOWN INCLUDE CONCENTRATIONS OF COMPOUNDS DETECTED AT < CLASS GA VALUES.)
4. µg/L = MICROGRAMS PER LITER
5. CVOCs = CHLORINATED VOLATILE ORGANIC COMPOUNDS

SOURCE FOR SURVEY: YEC, INC., 2014.

NO.	DESCRIPTION	BY	DATE

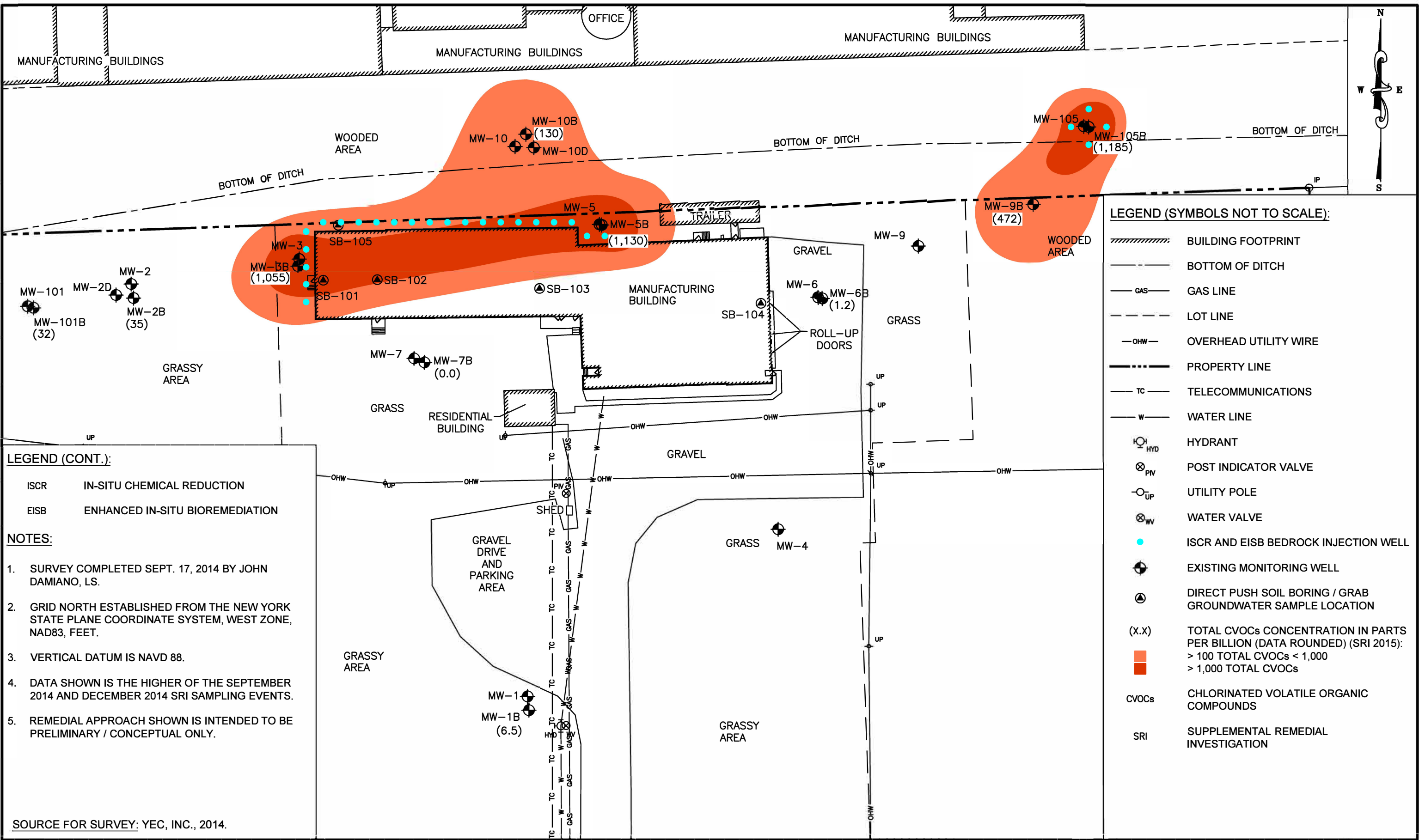


DESIGNED BY: LM
DRAWN BY: HD
CHECKED BY: DSG
DATE: MARCH 2015
SCALE: AS SHOWN
PROJECT NUMBER: 219075.0000.0000

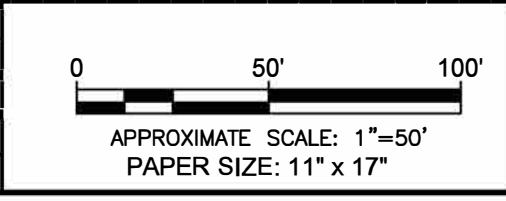
PROJECT NAME: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT MONROE ELECTRONICS - SITE NO. 837013 100 HOUSEL AVENUE LYNDONVILLE, NEW YORK 14098
DRAWING TITLE: SUMMARY OF RESULTS OF ANALYSIS OF GROUNDWATER FOR CVOCs DEEP MONITORING WELLS

FIGURE 4

P:\Projects\NYSDDEC\Assignments\W19 - Monroe Electronics\Feasibility Study\TRC Working Drawings\Figure 8 - Alt. 3 Bedrock Aquifer EISB and ISCR Inj. Pts.dwg - Date: Fri, 06 Nov 2015 - 12:12pm - User: Name: hdelgado - Layout Tab: 11X17



NO.	DESCRIPTION	BY	DATE

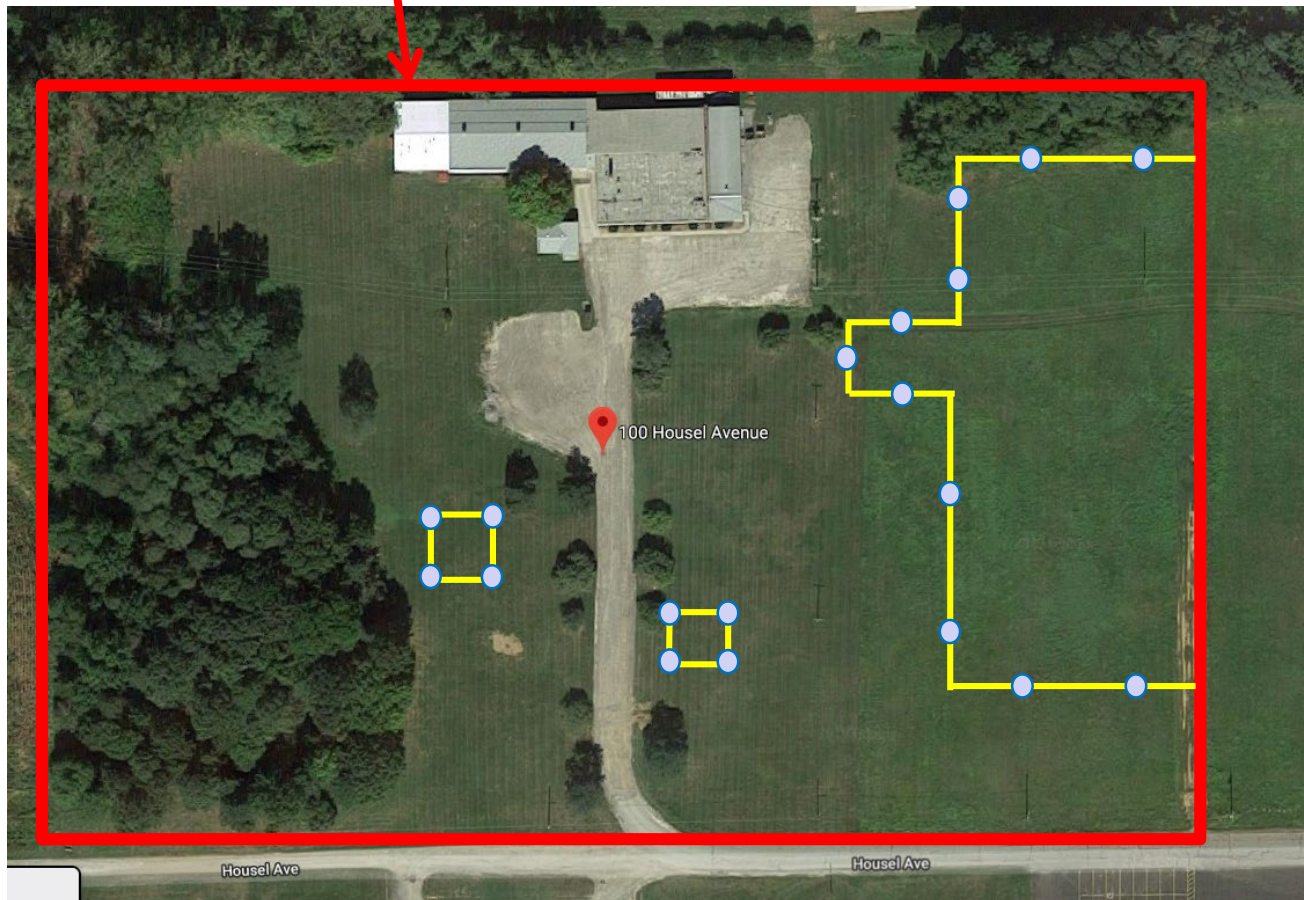
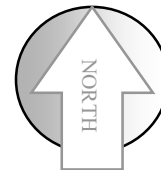





DESIGNED BY: JM / LM
DRAWN BY: HD
CHECKED BY: DSG
DATE: NOVEMBER 2015
SCALE: AS SHOWN
PROJECT NUMBER: 219075.0000.0000

PROJECT NAME: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION FEASIBILITY STUDY - MONROE ELECTRONICS - SITE NO. 837013 100 HOUSEL AVENUE LYNDONVILLE, NEW YORK 14098
DRAWING TITLE: ALTERNATIVE 3: BEDROCK AQUIFER EISB AND ISCR INJECTION POINTS

FIGURE 6

Approximate
Site Property
Boundary



-  Area targeted for shallow soil turning
-  Approximate site property boundary
-  Location of targeted soil sample delineation

Title: Soil Sampling Delineation
Digital Alert Systems
Lyndonville, New York

Prepared For: Digital Alert Systems
100 Housel Avenue
Lyndonville, New York



Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
Fax (585) 248-2834

Project 870.001

Date

10/2019

Scale NTS

Drawn MGD

Checked

MPR

File Name
Soil Delineation

Figure

7

APPENDIX A
HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Digital Alert Systems
Formerly Monroe Electronics
100 Housel Avenue
Lyndonville, New York 14098

NYSDEC Site #837013

Prepared for:

Digital Alert Systems
100 Housel Avenue
Lyndonville, New York 14098

Prepared by:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

January 2020

870.001

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Table 1	Known and Potential Health and Safety Hazards
Table 2	Action Levels
Table 3	Emergency Call List

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Appendix 1	Safety Meeting Sign-Off Sheets
Appendix 2	MSDS
Appendix 3	Route to Hospital

1.0 Project Personnel Responsibilities

Project organization is presented below in Section 1.5.

1.1 Principal-In-Charge

The Principal-In-Charge for this project will be Michael Rumrill. Mr. Rumrill will act in a supervisory capacity over Leader Professional Services, Inc. (“Leader”) employees and their subcontractors and the planned site activities with respect to the project site. Mr. Rumrill has the authority to direct site operations including the performance of this health and safety plan

1.2 Project Manager

The Project Manager will be Matthew Drury, PE of Leader. If a substitute is required, the Site Supervisor will be an employee of Leader. The Site Supervisor oversees all field and related activities specific to the project when the Project Manager is not on the site.

1.3 Health and Safety Officer

Katherine Fetcie will serve as the site’s health and safety officer (“HSO”). Ms. Fetcie has the authority to stop work if any operation threatens the health and safety of workers or the public. The HSO may designate a member of the work party for site health and safety responsibilities when the HSO cannot be on site.

1.4 Project Team

Personnel and subcontractors on the project team will be responsible for the completion of the work plan’s required tasks. All personnel on the project team will comply with the site safety plan and ensure the site safety and health officer or supervisor is notified of any unsafe conditions. It is anticipated that the project team will consist of one to three individuals. This may vary due to any changes that occur during the actual site work. All personnel on the project team will have the required 29CFR 1910.120 40-Hour Training and participate in daily tailgate health and safety meetings.

1.5 Project Organization

Project Manager – Matthew Drury, P.E.
Project Engineer – Matthew Drury, P.E.
Site Supervisor – Robert Murphy, Leader
Health and Safety Officer – Katherine Fetcie, Leader

2.0 Site Standard Operating Safety Procedures

Standard operating and safety procedures include safety precautions and operating practices that all personnel will follow. These include:

2.1 Personal Precautions

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated contaminated.
- Hands and face must be thoroughly washed upon leaving the work area.
- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.
- No facial hair, which interferes with a satisfactory fit of the mask-to-face seal, is allowed on personnel required to wear respirators. Personnel will use the negative pressure fit test prior to each use of the equipment.
- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate, discolored surfaces, kneel on ground, lean, sit or place equipment on drums, containers, or the ground.
- Medicine and alcohol can enhance or mask the effects from exposure to toxic chemicals. Prescribed drugs should not be taken by field personnel where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverages should be avoided, in the off-duty hours, during the project.

2.2 Operations

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications.
- Any required respiratory protection and chemical protective clothing must be worn by all personnel going into areas designated for wearing protective equipment.
- Personnel on-site must use the buddy system when wearing respiratory protection. As a minimum, one person, suitably equipped, is required as safety backup during initial entry.

- Visual contact must be maintained between pairs on-site and safety personnel. Entry team members should remain together to assist each other during emergencies.
- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.
- Communications using radios, hand signals, signs, or other means must be maintained between team members at all times.
- Wind indicators visible to all site personnel should be strategically located throughout the site.
- Personnel and equipment in the contaminated area should be minimized to reduce the potential for cross contamination and the generation of decontamination waste.
- Work areas for various operational activities will be established by the project manager, or his designee, and the HSO.
- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures have been established based on expected site conditions and are described in the project Work Plan.

3.0 Health and Safety Hazards

The potential hazards that may be experienced during the performance of the Work Plan include: chemical exposures from contact with contaminated soil and groundwater; hazards inherent to working with drilling and sampling equipment and working within an active industrial site where trucks and heavy equipment may be operating; slip, trip and fall hazards; and heat stress from performing heavy work while wearing protective clothing. The extent of contamination is well known but monitoring for the presence of organic vapors will be conducted. To prevent unnecessary exposures to vapors and to limit the potential for cross-contamination, all work areas will be limited from general access. The formation of distinctive work zones will also assist in reducing the potential hazards that may exist working at the Site. To reduce accidents from occurring that involve slip, trip and fall hazards and hypothermia, work will be monitored by the Site HSO and workers will be encouraged to use the “buddy-system” while lifting heavy tools or items to reduce early fatigue while wearing protective clothing.

Table 1 lists potential health and safety hazards that may be encountered based on general site tasks. This list has been compiled based on the scheduled activities and potential site conditions.

4.0 Personal Protective Equipment

4.1 Protective Equipment

All personnel will be provided with appropriate personal safety equipment and protective clothing. Each individual will be properly trained in the use of this safety equipment before the start of field activities. Safety equipment and protective clothing shall be used as directed by the Project Manager and/or Site HSO. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The Site HSO will monitor the maintenance of personnel protective equipment to ensure proper procedures are followed.

Personal protective equipment will be worn at all times designated by this Health and Safety Plan. Levels of protective clothing and equipment are not expected to exceed Level C. Results from the previous groundwater samplings and on-site readings will be used to set action levels and levels of personal protection.

The personal protective equipment levels designated below are in conformance with EPA criteria for Level A, B, C, and D protection. All respiratory protective equipment used will be approved by National Institute for Occupational Safety and Health (“NIOSH”) and Mine Safety and Health Administration (“MSHA”). Although the conditions within the proposed work areas are well known monitoring will be completed at all times, but it is doubtful that levels of respiratory protection will exceed Level D.

4.2 Level C Protection

A. Personal Protective Equipment

- Half-face, air-purifying, canister-equipped respirator (MSHA/NIOSH approved) for acid/gas/organic vapor with particulate filter
- Chemical-resistant clothing (overalls and long sleeved jacket; coveralls or hooded, one piece or two-piece chemical-splash suit; disposable chemical resistant one-piece suits)
- Work Clothes (Long Sleeve Shirt and pants)
- Gloves (outer), chemical resistant
- Gloves (inner), chemical resistant
- Boots (inner), leather work shoe with steel toe and shank
- Boots (outer), chemical resistant (disposable*)

- Hard Hat (face shield*)
- Safety Glasses or goggles
- Taping between suit and gloves, and suit and boots
- High visibility vest

*Optional

B. Criteria for Selection

Meeting all of these criteria permits use of Level C Protection.

- Measured air concentration of identified substances will be reduced by the respirator to, at, or below the substance's Threshold Limit Value (TLV)/Permissible Exposure Limits (PEL) and the concentration is within the service limit of the canister.
- Atmospheric contaminant concentrations do not exceed IDLH levels.
- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of skin left unprotected by chemical resistant clothing.

4.3 Level D Protection

A. Personal Protective Equipment

- Work Clothes (Long sleeve shirt and pants)
- Leather, steel-toed boots
- High visibility vest
- As required:
 - Hard hat
 - Safety glasses/goggles
 - Hearing protection
 - Protective gloves

B. Criteria for Selection

Meeting all of these criteria permits the use of Level D Protection.

- Measured air concentrations of identified substances are below the substances Permissible Exposure Limit (PEL) or TLV.
- Oxygen content is > 19.5%.
- No unknown substances are present.

5.0 Decontamination

It is expected that the usual level of protection to be Level D. Level C will be used when potential exposures to contaminants justify increased protection. A decontamination zone will be set up at the entrance of each work zone. Based on the level of expected exposure to contaminants, the following decontamination protocol will be used.

5.1 Personnel Decontamination

It is expected that a minimum of Level D decontamination will be continually in effect at the site. On these occasions when higher levels of protection are required, appropriate decontamination procedures will be used. The extent of the decontamination procedures will be at the discretion of the site Health and Safety Officer.

In general, decontamination involves removing potentially contaminated soil from gloves and clothing, followed by scrubbing with a non-phosphate soap/water solution and clean water rinses. As a general rule, protective clothing will be removed in the reverse order as it was put on: gloves and boots off first, followed by protective suits and then breathing apparatus. As the different types of waste are generated, the team members will segregate the waste into different drums. Potentially contaminated soil and sediment will be placed into one drum and decontamination waste fluid into a second drum. All disposable items will be placed into a dry goods drum.

Certain parts of contaminated respirators, harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush. In addition to being decontaminated, all respirators, non-disposable protective clothing, and other personal articles must be sanitized before they can be used again unless they are assigned to individuals. The manufacturer's instruction should be followed in sanitizing the respirator masks. The Site HSO will be responsible for supervising the proper protective equipment.

All decontamination wastewaters will be collected and disposed of according to applicable regulations. This disposal will be done at the direction of the Project Manager.

5.2 Equipment Decontamination

Decontamination will be applicable to all activities on site and be completed in the contamination reduction zone (“CRZ”) section of the exclusion zone. All equipment (i.e., tools, monitoring equipment, etc.) will receive initial decontamination. All equipment that has been in contact with contaminants shall be stored in an area within the limits of the existing exclusion zone or shall be thoroughly decontaminated prior to leaving the area. Decontamination will consist of cleaning of the entire piece of equipment to the satisfaction of the Site Supervisor or the HSO. Decontamination will be a multi-process task, first all loose dirt or other foreign materials will be removed from equipment surface. Scrubbing with a synthetic wire brush may be required to remove materials that adhere to the surfaces. After the loose dirt is removed, the equipment will be washed using a detergent and water solution and a wire brush followed by successive rinses with clean water. Washing with hot water from a power washer may be substituted for a synthetic wire brush.

All dirty equipment will be stored on plastic sheeting in such a manner that decontamination waters can be collected and disposed of in accordance with applicable regulations. Clean equipment not in use will be covered with plastic and stored at a designated storage area.

Air monitoring equipment will be protected with an outer coating (i.e. plastic), if there is a potential for the equipment to come into contact with potentially contaminated materials prior to the initial entry into the exclusion zone. Decontamination will then consist of removal of the protective coating in a manner that will not contaminate the air monitoring equipment.

6.0 Site Air Monitoring

Field activities associated with the work tasks at the Site may pose hazardous conditions, such as the release of hazardous substances into the worker’s breathing zone. These substances may be in the form of vapors, dusts, or mists that can enter the body through ingestion, inhalation, or direct skin or eye contact. If the HSO, relying on instrument observations and odor, determines that a condition exists in which workers may be exposed to airborne hazardous materials, the HSO will upgrade the team’s level of respiratory protection and complete chemical specific monitoring.

The following paragraphs describe the monitoring parameters to be evaluated during the start of the project. As the project continues, other site-specific monitoring will be required based on site conditions and experience at the site. Because this project will be completed in the winter/early spring and the proposed work area is covered with a combination of asphalt, gravel, or grass fields, there is a concern about contaminated dust being an issue. Potential combustible concentrations of petroleum related compounds have not been identified to date as a concern in the soil or groundwater, thus the necessity for oxygen and combustible gas monitors is not supported. All instruments to be used during site activities will meet the established requirements set forth by OSHA, MSHA, NIOSH, and state agencies where applicable.

Observations will be made during work progress with a direct reading organic vapor meter. Monitoring will take place in the work zone and workers breathing zone, up and down-wind from the work zone and at the Site perimeter. Monitoring within the work zone will be taken at least every 15 to 30-minutes. Monitoring up and down-wind of the work zone will be completed at least every 30 to 60 minutes and monitoring at the Site perimeter will be completed at least every 60 minutes. If elevated readings are obtained (elevated compared to up-wind readings or compared to Site specific action levels), then the frequency of taking measurements will be increased at the monitoring stations.

If dust exceeds thresholds at the upwind monitoring location during the investigative activities, the HSO will instruct the site manager to take an appropriate level of corrective action. If dust from the sampling or drilling operations exceed project thresholds at the downwind monitoring location compared to the upwind monitoring location, the HSO will determine what is causing the problem and seek a remedy, and if needed, they will stop work until it can be corrected. As a result, air monitors will be located up and down wind of the investigation work.

Based on preliminary monitoring well sampling data, it is anticipated that organic vapors will be below 1 ppm. Organic vapor concentrations will be the primary measure for upgrading or downgrading worker respiratory protective equipment and implementing additional precautions or procedures (See Table 2, Action Levels).

All site monitoring will be conducted by or under the direction of the Site HSO. All readings obtained will be recorded in a dedicated site notebook maintained by the Site Supervisor or designate. The Site HSO will maintain all monitoring instruments throughout the site investigation to ensure their reliability and proper operation.

7.0 Action Levels

Action levels have been established for the upgrade and downgrade in the levels of personal protective equipment. Table 2 lists the action levels, airborne concentrations and their respective personal protection for unknown sources of organic vapor concentrations. Section 8.0 discusses the minimal personal protection required for specific site activities based on current information. Changes to these specified levels are dependent on the result of air monitoring as outlined below.

8.0 Site Activities and Associated Personnel Protective Requirements

The levels of protection have been assigned anticipated Site activities (below) and represent a best estimate of exposure potential and protective equipment needed for that exposure. The site HSO will revise those levels of protection, up or down, based on air monitoring results, and on-site assessments of actual exposures.

- *Level D* - General site work with limited physical contact with contaminated soil by personnel. If workers must pick up contaminated tools or a soil samples, protective chemical resistant gloves will be worn. Respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.
- *Modified Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, but respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.
- *Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, and organic vapor measurements or dust measurements are greater than those action levels cited on Table 2.

9.0 Contingency Plan

The Project Manager/Site Supervisor or HSO is responsible for implementing the Contingency Plan whenever there is either a threat to human health or an environmental hazard. Possible Contingency Plan situations include actual or imminent fires, explosions or spills.

The individual discovering the emergency situation is to notify the Site Supervisor or HSO who will then notify the representative for Digital Alert Systems and the appropriate organizations as described in Table 3.

9.1 Assessment

The Project Manager/Site Supervisor is responsible for ascertaining any possible health or environmental hazards and determining the need for evacuation and notification of the proper authorities.

9.2 Control Procedures

The team member or site employee discovering a fire, explosion, spill or other emergency situation is responsible for notifying the Site Supervisor immediately and the Project Manager Site HSO when practical. The Site Supervisor or HSO will assess the situation and notify the Digital Alert Systems representative immediately to determine if it can be adequately handled by Site personnel or if additional assistance is needed.

Before any team member attempts to extinguish a fire, clean-up and contain a spill or take any action, he or she must be aware of the properties of the material involved and its associated hazards. All team members are familiarized with this information during the initial tail gate safety meeting and are instructed on the proper protective clothing to be worn in such a situation.

Table 3 includes a list of the organizations that are available to provide emergency assistance.

9.3 Fire and/or Explosion

The most serious emergency situation that could be faced at the site would be a chemical release or major fire. In the event of a fire or explosion, the Site Supervisor or HSO should be notified as described in the preceding section. The Site Supervisor or HSO and the representative from Digital Alert Systems are responsible for determining the requirements for outside assistance as well as the necessity for site evacuation.

The Fire Department should be notified immediately once a fire is detected. Small fires can be extinguished using a fire extinguisher located at the site. Larger fires will require the assistance of the fire department. The fire department will be informed of the nature of the fire and wastes at the site, and if water can be used to extinguish the fire.

9.4 Spill and/or Material Releases

The procedure for notification of the Project Manager/Site Supervisor and, or HSO are described in Section 9.2. Immediately following the discovery of a spill the NYSDEC will be notified. In addition, the Comprehensive Environmental Response, Compensation, and Liability act of 1980 (CERCLA, or Superfund)

requires that the National Response Center be notified of any release in excess of the reportable quantity of a listed material.

Spill clean-up poses no danger under normal conditions. The first step is to determine the source of the spill and correct it. This may involve patching a leaking drum, closing a valve or turning off a pump. In the event of a small spill, absorbent granules or sorbent pads will be utilized to soak up the spilled material. The granules would then be swept up and containerized in Department of Transportation approved drums.

In the event a large spill occurs, Digital Alert System's preferred remedial contractor will be called to bring in pumps and vacuum trucks and transfer spilled material from the collection area into storage tanks or drums. All absorbent materials would be placed in DOT approved drums.

Any contaminated structures and equipment must be properly cleaned before being returned to service. This procedure will include use of pressure washers and sorbent materials. All affected floors and equipment, pumps and hoses, will be cleaned with an appropriate detergent and rinsed with clear clean water.

10.0 Work Areas

The Project Manager/Site Supervisor, HSO, the representative from Digital Alert Systems, and if needed the Contractor, will clearly layout and identify work areas in the field and will limit equipment, operations, and personnel as defined in the following areas:

- a) "Exclusion Zone" - This area will include all areas where environmental monitoring has shown, or it is suspected that a contamination may exist and be a potential exposure problem to workers. The level of personnel protective equipment required in these areas will be determined by the Site HSO. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by plastic caution tape, barriers, or fencing (e.g., chain link, snow, or orange plastic fencing).
- b) Contamination Reduction Zone (CRZ) - This zone will occur at the interface of "Contaminated" and "Clean" areas and will provide for the decontamination of equipment and materials and the transfer of equipment from the Clean Area to the Exclusion Zone. This area will contain all required emergency equipment, etc. This area will be clearly delineated by plastic tape, barriers or fencing (e.g., chain link, snow, or orange plastic fencing).

- c) Support Zone (“Clean” Area) - This area is the remainder of the work site and project site. The “Clean” area will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site.

The function of the “Clean” area includes:

- 1) An entry area for personnel, material, and equipment to the “Contaminated Zone” area of site operations through the neutral zone.
- 2) An exit for decontaminated personnel, materials, and equipment from the “CRZ” area of site operations; and
- 3) A clean storage area for safety and work equipment.

11.0 Safety Equipment and Protective Clothing Specifications

All project team members and contractors will have the following safety equipment:

- Air purifying respirator with appropriate cartridges
- All protective clothing including, but not limited to:
 - Tyvek and washable PVC rain suits
 - Gloves
 - Boots
- Safety glasses
- Hearing protection
- Hard hats
- High visibility vest.

12.0 Air Emissions Control

The Project Team and subcontractor shall have on site all equipment and personnel necessary to monitor and control air emissions.

It is not expected that air emissions will pose a significant risk to health and safety or to the environment due to the nature of the contaminants on this project.

The Project Manager/Site Supervisor and/or the HSO will make the determination for requiring monitoring and control of air emissions with the assistance of the following monitoring equipment and the action levels cited on Table 2. It is

anticipated that an organic vapor analyzer and chemical specific detection tubes will be used to measure the concentration of most organic contaminants in the air. These two measurement devices will handle the bulk of the real-time contaminant monitoring.

13.0 Additional Health and Safety Comments

- 1) The Site HSO will ensure that all safety equipment and protective clothing is kept clean and well maintained.
- 2) All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators. No contact lenses shall be allowed on-site.
- 3) All disposable or reusable gloves worn on the site will be approved by the HSO.
- 4) During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough and at a minimum filters will be changed daily.
- 5) Footwear used on-site will be covered by rubber over-boots when entering or working in the "Exclusion Zone" area or "CRZ." Boots will be washed with water and detergents to remove dirt and contaminated sediment before leaving the "CRZ."
- 6) All personnel protective equipment used on-site will be decontaminated or disposed of at the end of the workday.
- 7) All air purifying respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.
- 8) Any team member or Contractor unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.
- 9) The Contractor will ensure that all project team members shall have vision or corrected vision to at least 20/40 in one eye.
- 10) Team members found to be disregarding any provision of this plan will, at the request of the HSO, be barred from the project.

- 11) Used disposable outerwear will be removed upon leaving CRZ and will be placed inside disposable containers labeled for that purpose. These containers will be stored at the site at the designated staging area. Leader will be responsible for proper disposal of these materials at the completion of the project.
- 12) Tyvek or PVC rain suits that become torn or badly soiled will be replaced immediately.
- 13) Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the exclusion zones and CRZ zones.
- 14) All personnel will thoroughly cleanse their hands, face, forearms, and other exposed areas prior to eating, smoking, or drinking.
- 15) All personnel will wash their hands, face, and forearms before using toilet facilities.
- 16) No alcohol, firearms, or drugs (without prescription) will be allowed on-site at any time.

14.0 Miscellaneous Health and Safety Items

14.1 Hypothermia

When the ambient air temperature dips below 40° F. the Site HSO will begin to monitor employees for signs of hypothermia. Monitoring will take the form of measuring oral temperatures. The air temperature will be measured two times a day when the air temperature is expected to be below 40° F or as determined by the HSO. As the air temperature dips below 32° F., oral temperatures will be measured at the direction of the HSO and, or every hour during work periods.

In the event that the oral temperature at the beginning of the rest period drops below 96° F., the employee will be decontaminated and be advised to proceed to a heated room or vehicle and remove wet clothing and to drink warm fluids. At the end of the rest period, the oral temperature will be taken again to ensure that the employee's temperature is above 96° F. If the oral temperature has remained below 96° F., the employee will be advised to take a shower to increase his/her temperature. However, if the oral temperature still remains below 96° F. after the shower, the employee will be immediately sent to consult with a physician.

A fluid/electrolyte replacement will be used as necessary to minimize fluid loss. This liquid supplement will be stored in a cooler or thermos at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles.

Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

- 1) Personnel shall wash and rinse their outer gloves and remove them.
- 2) Personnel shall remove their hard hats and respirators and place on a table.
- 3) Personnel shall remove their inner gloves and place them on a table.
- 4) Personnel shall wash and rinse their face and hands.
- 5) Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.
- 6) The used bottle or cups will not be returned to the cooler but will be placed in a receptacle or container to be cleaned or disposed of.
- 7) Personnel shall replace their respirators, hard hats, gloves, and tape gloves prior to re-entering the hazardous zone.

14.2 Retention On-Site

During the course of the project, it is expected that waste materials will be retained on-site until removed by Digital Alert Systems. All waste containers will be labeled according to DOT and other regulations where appropriate. Waste materials, both drummed and bulk, will be stored in designated areas. All waste drums will be sealed before they are moved from the exclusion zone. Leader will oversee the proper disposal and reporting of waste removal and disposal.

14.3 Equipment and Material Decontamination

All equipment and material used in this project shall be thoroughly decontaminated using procedures described in the project Work Plan before it is removed from the project site. Debris and contaminated clothing and tools which cannot be decontaminated, shall be disposed of.

14.4 Communications

Telephone communications will be available at all times on the site. A telephone will be maintained with the Project Manager or Site Supervisor.

Communication procedures are outlined in the Contingency Plan in Section 9.0 of the Health and Safety Plan.

Table 3 contains an emergency call list and will be posted in one of the team member's vehicles and in the Digital Alert System's office.

14.5 On-Site Hygiene Facilities

The office lavatories will be available for decontaminated team members and subcontractors. Water will be available in the CRZ for decontamination.

A first aid kit will be kept in the support zone at the Site at all times.

15.0 Tailgate Safety Meetings

The HSO or the designated representative will conduct daily tailgate safety meetings each workday and will be mandatory for all project personnel. The meetings will provide information on the anticipated site conditions and the work to be completed that day. Appendix 1 contains a form for documenting Safety Meetings. Completed forms will be retained in Leader's project file.

Additional safety meetings will be held on an as required basis.

16.0 Medical Surveillance

All team members and subcontractors that may potentially have contact with hazardous substances at concentrations above the permissible exposure level (PEL) will be part of a Medical Monitoring Program as outlined in 29CFR 1910.134 and 29CFR 1910.120.

Table 1

KNOWN AND POTENTIAL HEALTH AND SAFETY HAZARDS DIGITAL ALERT SYSTEMS LYNDONVILLE, NEW YORK

Known and Potential Site Hazards: *Chemical* (See Appendix 2 for information sheets and/or MSDSs)

1) Contaminants

- 1,1,1-Trichloroethane
- Trichloroethene
- Arsenic

2) Review of Symptoms

Symptoms of exposure to hazardous wastes and in particular to the contaminants above will be reviewed with all site personnel. Symptoms of both acute and chronic exposures will be covered. In addition, the on-site coordinators will be advised to watch for outward evidence of changes in workers' health. These outward symptoms may include fatigue, tremor, insomnia, skin irritations or discoloration, eye, nose and throat irritation, cough, or abdominal soreness.

Note the number and nature of potential contaminants mandate that contact of waste materials with the exposed skin must not be allowed to occur under any circumstances.

Known and Potential Site Hazards: *Non-Chemical*

- General Physical Hazards. Physical hazards include:
 - Vehicular traffic
 - Moving earthmoving equipment
 - Operating drilling and pumping equipment
 - Sharps (metals and glass)
 - Underground and aboveground utilities
 - Slip, trip, and fall

Table 2
ACTION LEVELS
DIGITAL ALERT SYSTEMS
LYNDONVILLE, NEW YORK

Unknown Organic Vapor Concentrations (ppm) ¹	Level of Protection
< 1	Level D
≥ 1 < 10	Level C
>10	Level B

Anticipated Chemical Contaminants	Time Weight Average (ppm)
Metals (Arsenic)	0.01 from ACGIH (TLV)

Groundwater VOCs	OSHA PEL (ppm)
1,1-Dichloroethane	100
1,2-Dichloroethene	200
1,2-Dichloroethane	100
1,1,1-Trichloroethane	350
CIS-1,2-Dichloroethene	200
Trans-1,2-Dichloroethene	200
Trichloroethylene	200
Chloroethane	1000
Methylene Chloride	50 from ACGIH (TLV)

Note:

- 1 Unknown organic vapor action levels are based on the lowest known exposure limits for chlorine (PEL = 1 ppm, IDLH = 30 ppm). The air purifying cartridge limitation for chlorine is 10 ppm.

Table 3

EMERGENCY CALL LIST DIGITAL ALERT SYSTEMS LYNDONVILLE, NEW YORK

Fires - Spills

Lyndonville Fire Department 911

Public Services

Lyndonville Police Emergency 911

Emergency Medical Services

Oak Orchard Community Health Center (Lyndonville) (585) 765-2060

Medina Memorial Hospital (585) 798-2000

SPILL NOTIFICATION

Agencies

National Response Center (800) 424-8802

Local DEC Office Region 8 (Avon) (585) 226-5428

Provide the following information to the agencies:

- Name of person making the call
- Company and location
- Nature of fire (fire calls only)
- Name and estimated amount of chemical released to the environment (spills only)
- Time of release
- Remedial action taken to correct the problem

Site Contacts

Gail Dieter (NYSDEC Project Manager) (518) 402-9645

Matthew Drury (Leader Professional Services – Rochester) (585) 248-2413

Peter von Schondorf (Leader Professional Services-Rochester) (585) 248-2413

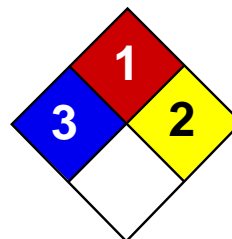
Michael Rumrill (Leader Professional Services – Rochester) (585) 248-2413

APPENDIX 1

SAFETY MEETING SIGN-OFF SHEETS

APPENDIX 2

MSDS



Health	3
Fire	1
Reactivity	2
Personal Protection	E

Material Safety Data Sheet

Arsenic MSDS

Section 1: Chemical Product and Company Identification

Product Name: Arsenic

Catalog Codes: SLA1006

CAS#: 7440-38-2

RTECS: CG0525000

TSCA: TSCA 8(b) inventory: Arsenic

CI#: Not applicable.

Synonym:

Chemical Name: Arsenic

Chemical Formula: As

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Arsenic	7440-38-2	100

Toxicological Data on Ingredients: Arsenic: ORAL (LD50): Acute: 763 mg/kg [Rat]. 145 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH. **MUTAGENIC EFFECTS:** Not available.

TERATOGENIC EFFECTS: Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to kidneys, lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:

Material in powder form, capable of creating a dust explosion. When heated to decomposition it emits highly toxic fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable

protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 0.01 from ACGIH (TLV) [United States] [1995] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Lustrous solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 74.92 g/mole

Color: Silvery.

pH (1% soln/water): Not applicable.

Boiling Point: Not available.

Melting Point: Sublimation temperature: 615°C (1139°F)

Critical Temperature: Not available.

Specific Gravity: 5.72 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents, acids, moisture.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 145 mg/kg [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH. Causes damage to the following organs: kidneys, lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:

Very hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Arsenic UNNA: UN1558 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Arsenic California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Arsenic Pennsylvania RTK: Arsenic Massachusetts RTK: Arsenic TSCA 8(b) inventory: Arsenic

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:**WHMIS (Canada):**

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R22- Harmful if swallowed. R45- May cause cancer.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 1

Reactivity: 2

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 1

Reactivity: 2

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information**References:**

-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -Liste des produits purs tératogènes, mutagènes, cancérigènes. Répertoire toxicologique de la Commission de la Santé et de la Sécurité du Travail du Québec. -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -SAX, N.I. Dangerous Properties of Industrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangereuses au Canada. Centre de conformité international Ltée. 1986.

Other Special Considerations: Not available.

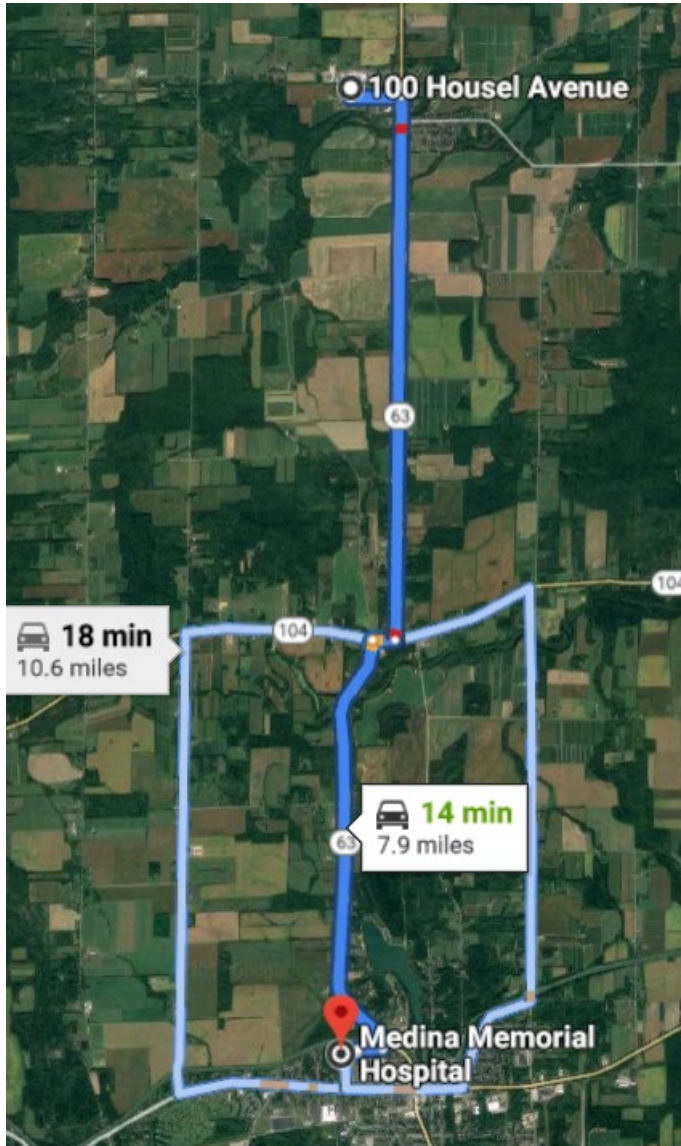
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Last Updated: 06/09/2012 12:00 PM

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APPENDIX 3

Route to Hospital



← from 100 Housel Ave, Lyndonville, NY 14098
to Medina Memorial Hospital, 200 Ohio St, Medina, N...

14 min (7.9 miles)



via NY-63 S

Fastest route, the usual traffic

100 Housel Ave

Lyndonville, NY 14098

↑ Head east on Housel Ave

▲ Partial restricted usage road

1 min (0.4 mi)

> Follow NY-63 S to Commercial St in Medina

10 min (7.2 mi)

> Continue on Commercial St to your destination

2 min (0.3 mi)

Medina Memorial Hospital

200 Ohio St, Medina, NY 14103

Title: Route to Hospital
Digital Alert Systems
Lyndonville, New York

Prepared For: Digital Alert Systems
100 Housel Avenue
Lyndonville, New York



Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
Fax (585) 248-2834

Project 870.001

Date

10/2019

Scale NTS

Drawn MGD

Checked

MPR

File Name
Route to Hospital

Appendix

3

APPENDIX B

GROUNDWATER SAMPLING PROCEDURES

Procedures for Groundwater Quality Sampling

The purpose of this document is to explain the procedures that will be followed during all groundwater sampling activities at the Site.

The water quality sampling will take place over a period of several days. The first day will consist of the pre-sampling activities listed below. All the water level measurements for the wells to be sampled during each round will be made in a single day. Wells will be evacuated and sampled during the same day.

PRE-SAMPLING ACTIVITIES

Well Maintenance Check

Prior to every sampling event, a routine inspection of the condition of the protective casing and surface seal will be performed. The protective casing will be inspected for the integrity of the locking cap and the surface seal. In addition, each well will be checked for any other signs of damage or inadvertent entry. Observations of any irregularities will be noted in the field logbook, as well as the well number, date, and time.

Air Monitoring

In order to provide workers with the proper respiratory protection for sampling, air monitoring in the breathing zone and immediately over the wellhead will be performed immediately after the initial uncapping. Health and safety procedures that are appropriate to the ambient air conditions will be implemented. Readings for both the breathing zone and wellhead will be recorded in the field logbook. See the Health and Safety Plan for respiratory protection action levels, and a description of the proper air monitoring equipment.

Water Level Measurements

The depth to groundwater will be measured with an electronic depth-indicating sounder. The probe will be lowered into the well until the meter indicates water is reached. The probe will be raised above the water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing for water level measurements and a depth reading taken. The value will be recorded to the nearest 0.01 foot in the field logbook. The measurement will be repeated three times and the measurement recorded. The probe will be raised to the surface and together with the amount of cable that was wetted in the well, will be decontaminated with a wipe followed by a distilled/deionized water rinse.

The calibrated cable on the depth indicator will be checked against a surveyor's steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01 percent (0.01 feet for a 100-foot cable).

WELL EVACUATION

Overburden Monitoring Wells

- The well will be purged with a low flow peristaltic pump. The pump's acrylic or PVC intake tubing will be lowered into the monitoring well to a point that is approximately in the center of the monitoring well screen or in the center of the water column. The discharge end of the tubing will be placed into a flow-through cell from which groundwater quality parameters will be measured. The discharge from the flow-through cell will be routed into a five-gallon bucket for discharge measurement. For sampling water flow will be approximately 0.25 liters per minute or until a constant stream of water is obtained. The water level in the monitoring well will also be monitored and not allowed to drop below 0.125 feet from the original pre-sampling static water level.
- When the groundwater quality is stable indicating that a representative sample of groundwater can be collected, the discharge end of the tubing will be disconnected from the flow-through cell and routed into a five-gallon bucket to collect spills from the filling of sample containers.
- The appropriate sample vials will be filled slowly and with a constant stream of water (flow) to avoid sample aeration and the field parameter tests conducted as described in "Field Measurements."

FIELD MEASUREMENTS

A portion of the groundwater collected during the sampling procedures will be subjected to the field tests of temperature, dissolved oxygen ("DO"), turbidity, specific electrical conductance, oxidation-reduction potential ("ORP") and pH. Field measurements will be conducted on the well purge water immediately prior to sample collection. Groundwater for these tests will be collected and measured in a plastic flow-through cell. All field test parameters will be measured with a portable water quality instrument such as a Horiba U-22 Water Quality Monitoring System. Temperature will be measured to the nearest tenth of a degree and the value recorded in the field logbook. Turbidity will be measured in standardized nephelometric turbidity units ("N.T.U."). After each measurement the N.T.U. value of the sample will be recorded. The goal of the well purging will be to reduce the turbidity of the groundwater extracted from the monitoring well to less than or equal to 50 N.T.U. The specific electrical conductance will be measured to the nearest 1 unit and recorded in the field logbook. The pH will be measured to the nearest 0.1-pH unit and the reading recorded in the field logbook. The DO will be measured to the nearest 0.1 unit and the reading recorded in the field logbook. The ORP will be measured to the nearest 1-millivolt and the reading recorded in the field logbook. Calibration will be conducted according to manufacturer's specifications.

EQUIPMENT DECONTAMINATION

All the sampling equipment (excluding the water quality probes) will be decontaminated between sampling events using the following procedures or disposed of.

- An initial wash with trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Five percent nitric acid rinse;
- Distilled/deionized water rinse;
- Pesticide Grade Methanol rinse;
- Distilled/deionized water rinse; and
- Air dry.

Decontamination wastewater will be collected in containers and disposed of properly.

SAMPLE LABELS

Sample labels will be placed on all samples and will contain the following information:

- Date and time of collection;
- Sample location;
- Sample number;
- Analysis to be performed; and
- Sampler's initials.

FIELD LOGBOOKS

The field logbooks used during sampling procedures will include the following information:

- Sampler's name (initials);
- Sampling location;
- Static water level (depth to water);
- Depth to bottom of the well;
- Calculated well volume;
- Actual evacuation volume;
- Date and time;
- Analyses to be performed;
- Preservation method;
- Field meter calibration information;
- General remarks (weather conditions, etc.); and
- Sample number.

All entries will be made in black indelible ink with a ballpoint pen and will be written legibly. Entry errors will be crossed out with a single line, dated, and initialed by the person making the correction. The Quality Assurance Officer on a weekly basis will review Field logbooks

SAMPLE CHAIN-OF-CUSTODY

A chain-of-custody form will be completed after each sample collection event. The chain-of-custody forms will accompany the samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until transportation to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time on the chain-of-custody forms.

EMERGING CONTAMINENTS

Leader will follow the most recent applicable NYSDEC Guidelines and Protocols for the sampling of emerging contaminants, including:

- PFAS Groundwater Samples from Monitoring Wells Sample Protocol Revision 1.2. August 9, 2018.
- Sampling for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DEC's Part 375 Remedial Programs. June 2019.