Scope of Work
Interim Remedial Measure
Site: 447047
222 South Ferry Street
December 2020

Background

The site is located at 222 South Ferry Street in the City of Schenectady, Schenectady County, New York. The site parcel is approximately 0.92 acres of land area. The property is vacant and consists of an asphalt-paved parking lot.

In 2007, groundwater contamination in the center of the site was reported. Since then, soil, groundwater and soil vapor sampling at the site have occurred. Groundwater is located 4-8 feet below groundwater surface. Groundwater contamination remains in the center of the site. Results are documented in the Site Characterization Report (Arcadis 2014), Remediation Investigation Report (Arcadis 2018) and Feasibility Study (Arcadis 2019). After additional sampling in Spring 2020, this IRM was developed as a pilot program to treat the existing groundwater contamination .

Scope of Work

Precision Environmental Services (PES), in conjunction with Regenesis, will implement the 3-D Microemulsion (3DME), S-MicroZVI (SMicroZVI) and Bio-Dechlor INOCULUM (BDI Plus) designed by Regenesis for the site. Prior to development of the Regenesis design, additional soil and groundwater sampling were performed at the site in March and April 2020 (Pre-design Sampling Report (Precision 2020). The results of the sampling are found in the attached Figures and Tables.

PES will work with Regenesis to implement the remedy in accordance with Regenesis' attached Proposal. The proposal addresses responsibilities between Precision (PES) and Regenesis and is attached to this scope of work. An area approximately 60 feet by 60 feet will be treated with the Regenesis chemicals, using approximately 36 injection points, that will penetrate to approximately 16 feet below ground surface.

HRP Associates Inc. will perform engineering services associated with the IRM, which include overseeing implementation of the injections, performing Community Air Monitoring, and development and implementation of a short term monitoring plan to determine effectiveness of the injections. HRP will prepare a construction completion report, including the results of the short-term post-injection monitoring, and develop a site management plan, which includes a long term evaluation and monitoring plan. The site management plan will also include a provision for future evaluation of soil vapor intrusion on-site, in the event that structures are constructed at the site.

The construction completion report and site management plan will be reviewed by NYSDEC and NYSDOH. Based on the results and the effectiveness of the treatment , future actions may be necessary, possibly including a second round of groundwater treatment .

Specific Responsibilities

Specific responsibilities of PES include:

1. Mark-out of all subsurface utilities the injection locations to ensure the proposed injection locations are not going to contact any utilities,
2. Notify EPA in accordance with 40 Code of Federal Regulations Part 144, EPA's Underground Injection Control (UIC) Program at least 30 days prior to implementation of the remedy,
3. Acquire the necessary hydrant permits or alternative water supply for the required amount of water as indicated in Regenesis' Proposal,
4. Arrange the necessary storage space and fencing required at the site
5. Supply the necessary drill rig and tooling, a down-hole sensor and groundwater level indicator,
6. Provide a decontamination pad/area on which to clean all equipment, materials and supplies prior to removal from site. The Contractor shall also be responsible for removing the decontamination pad at the end of the project and prior to demobilization from the site. Any drill cuttings, water, drilling fluids, and decontamination materials that could not be backfilled into the borehole shall be properly containerized by the Contractor and removed from the work area and properly characterized and disposed of.
7. Management and disposal of empty containers
8. Signing the attached Proposal and paying Regenesis in accordance with the

Regenesis will

1. Supplying the required quantities of remediation agents, mixing equipment, personnel, and a site-specific Health and Safety Plan (HASP) as documented in their Proposal.
2. Provide an Application Summary Report following completion of the injection work which will document the field activities and reagent distribution monitoring.

HRP will

1. Oversee fieldwork and conduct Community Air Monitoring. Daily air monitoring will be provided to DEC and DOH PM as it becomes available. In the event of any CAMP exceedances, the Agencies must be made aware as soon as possible on the day of the exceedance.
2. Develop and implement a short-term post-injection monitoring program, currently expected to consist of four monitoring events on-site.
3. Prepare a construction completion report
4. Prepare a Site Management Plan for long term monitoring at the site.

Attachments :

Figures

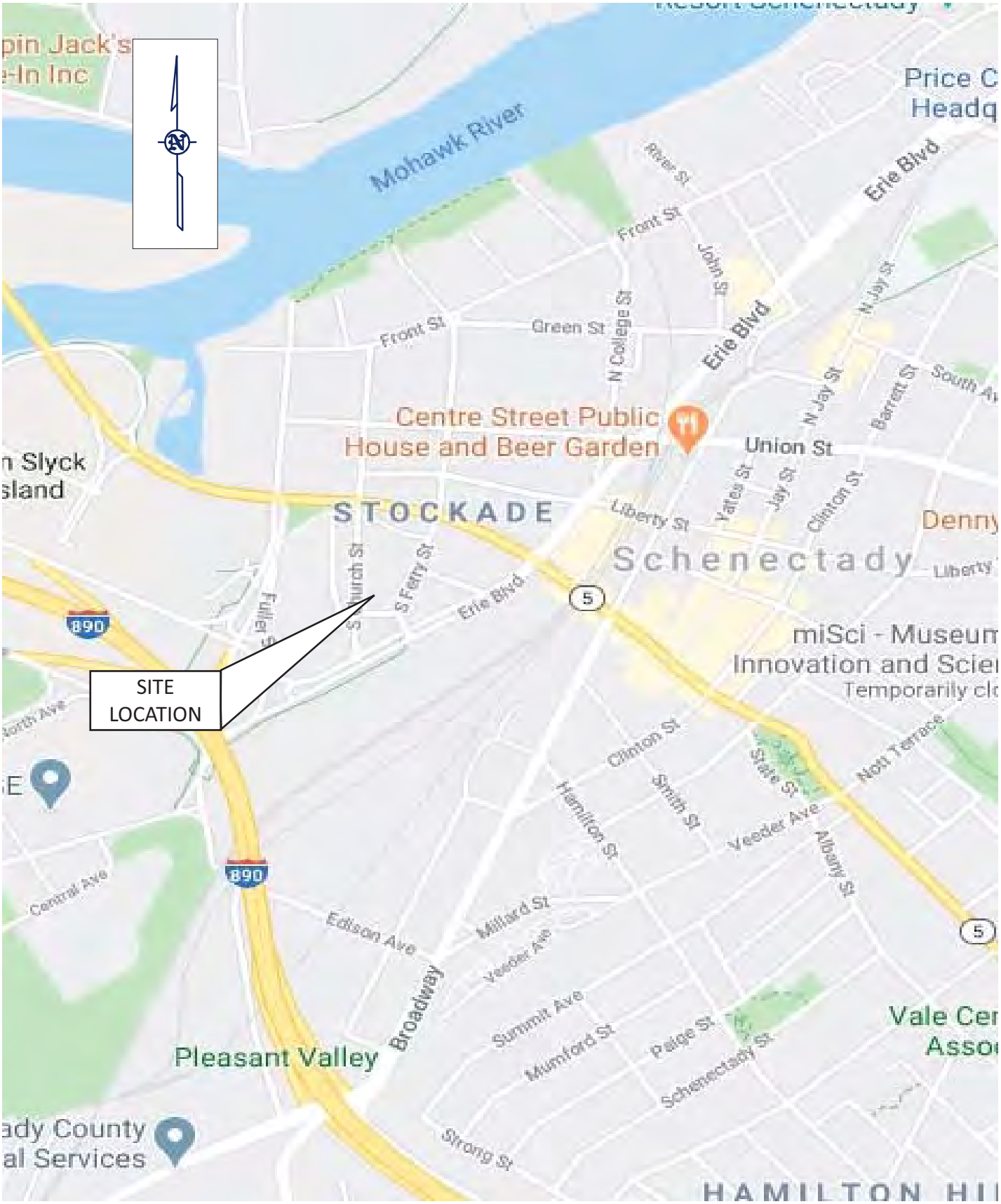
- Site Location Map
- 2020 Soil and Groundwater Results

Tables

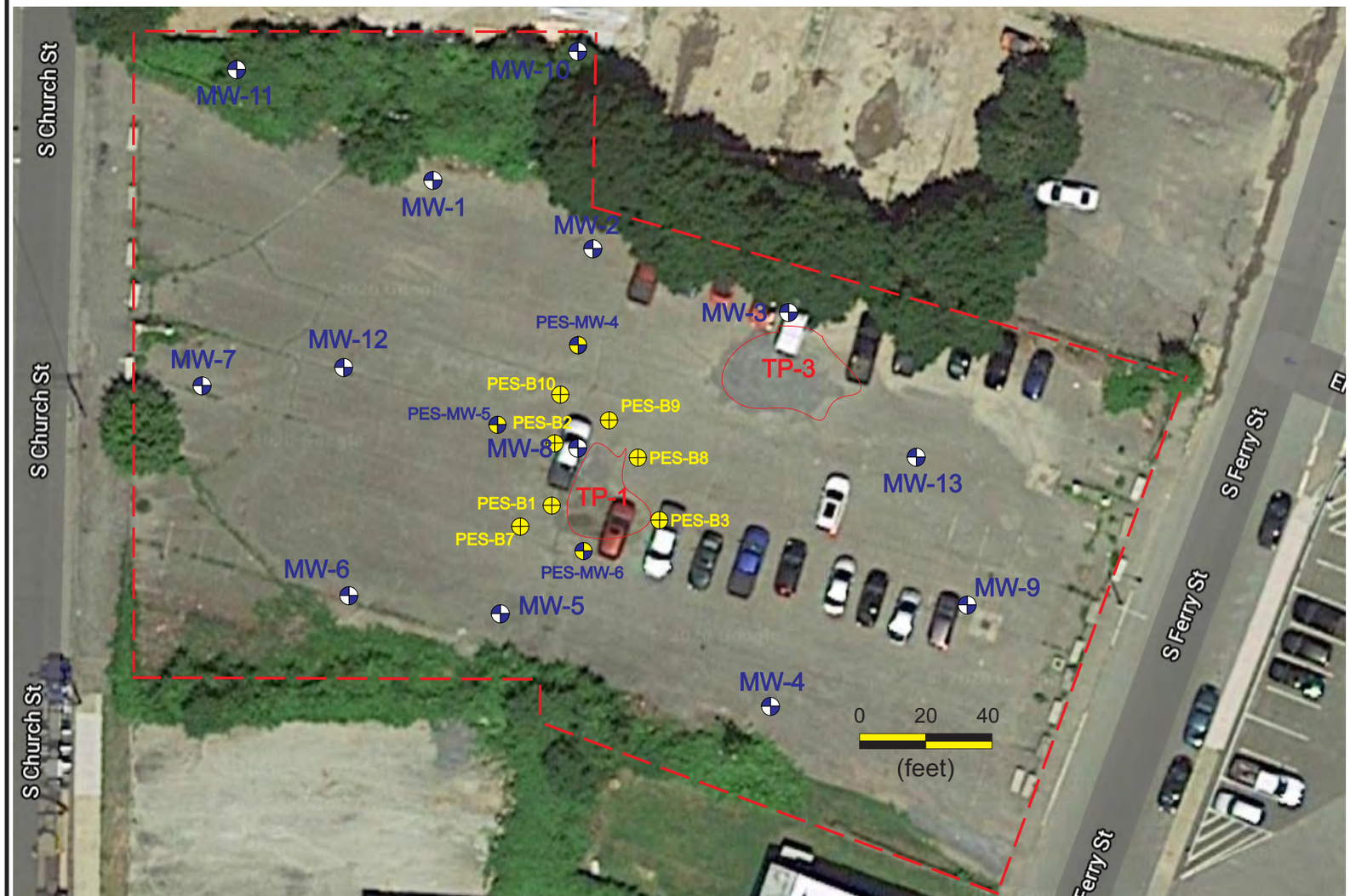
- 2020 Soil Results
- 2020 Groundwater Results

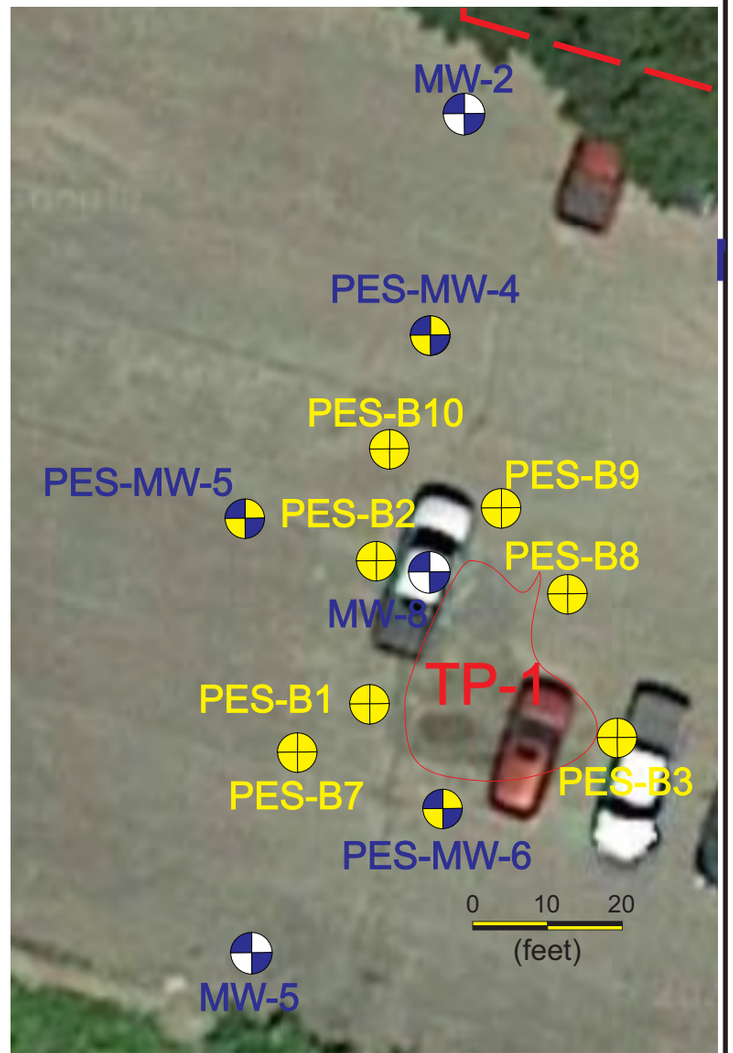
Regenesis Calculations & Dosing

Community Air Monitoring Program

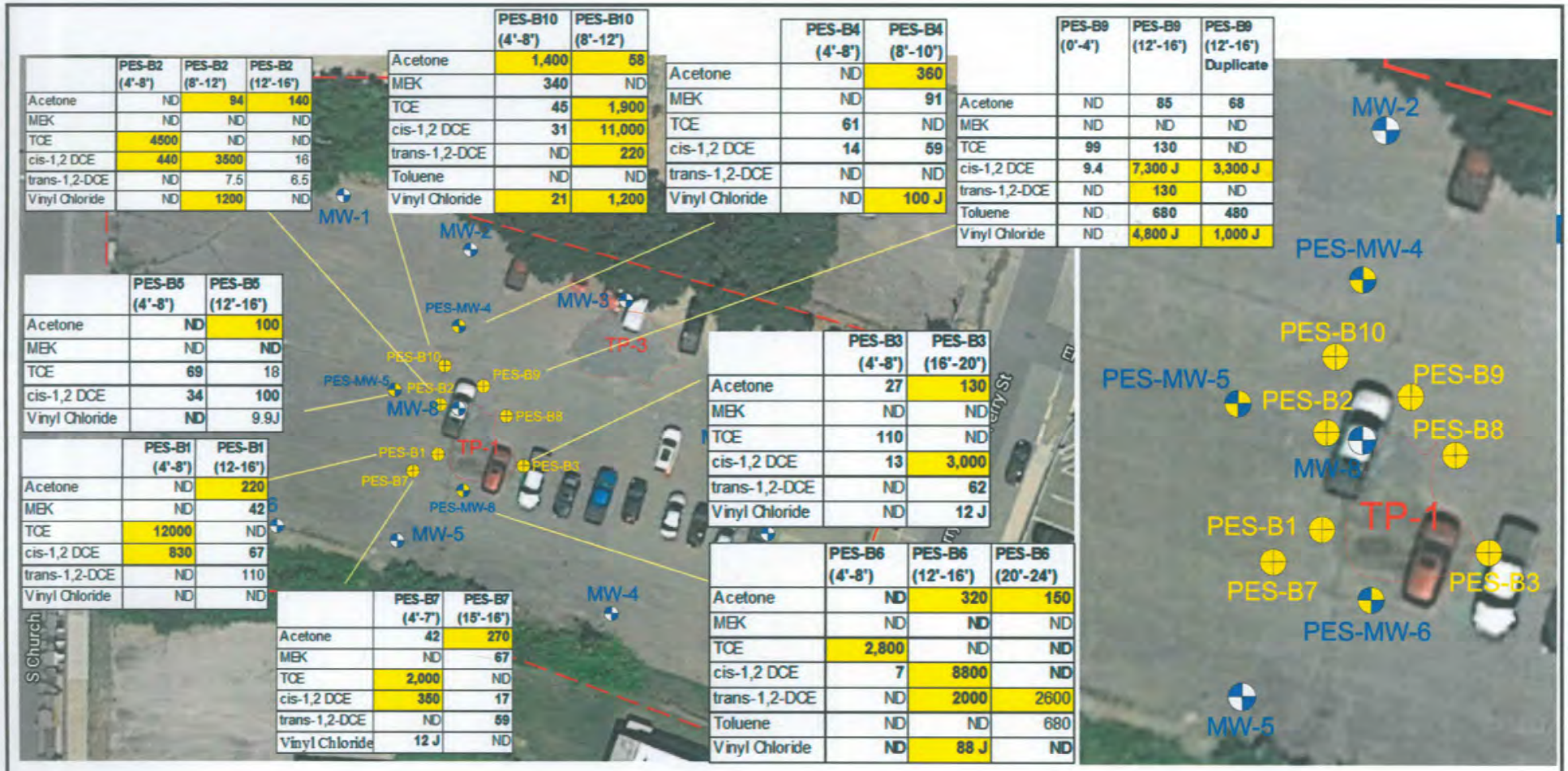


PRECISION ENVIRONMENTAL SERVICES, INC. 831 RT. 67, LOT 38 A BALLSTON SPA, NY 12020 TEL: 518-885-4399 FAX: 518-885-4416 CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE	**222 South Ferry Street Site** **222 South Ferry Street, Schenectady, NY**	**Date: May 2020**
		Map Courtesy of Google
SITE LOCATION MAP	**NYSDEC Site #: 447047**	**Figure:** 1

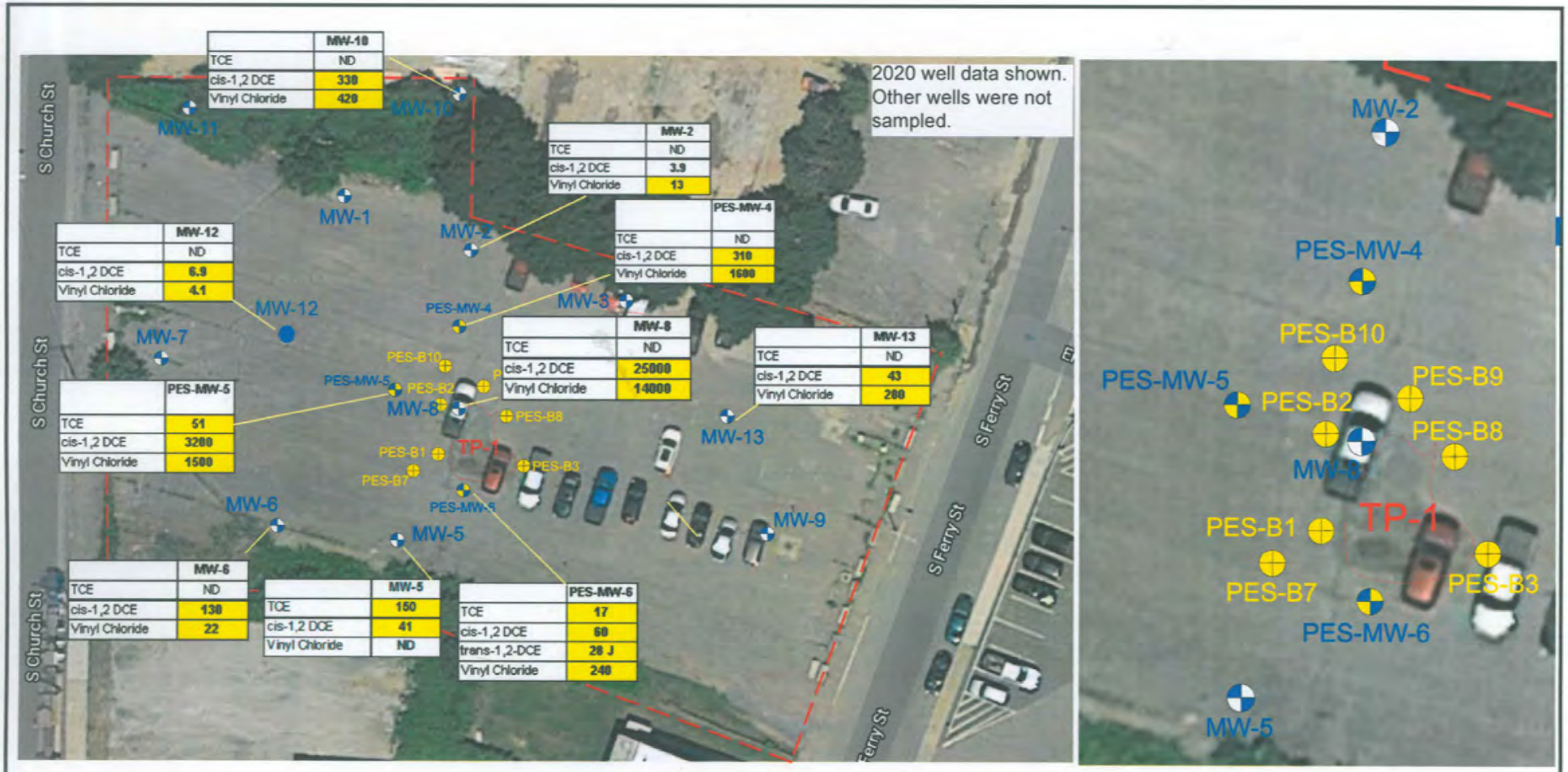




PRECISION ENVIRONMENTAL SERVICES, INC **831 NYS Route 67, Lot 38A** **Ballston Spa, NY 12020** **518-885-4399**	**General Site Map** **222 South Ferry Street** **Schenectady, NY**	**Date: June - 2020**	*LEGEND* **- Monitoring Well (Historic).** **- Soil Boring (PES).** **- Soil Boring/Monitoring Well (PES).** **- Historic Test Pit Outline (approx.)**
		See Bar Scale - Each Image	
Updated By : BN	**Figure: 2**	**NYS DEC Site No. 447047**	



PRECISION ENVIRONMENTAL SERVICES, INC 831 NYS Route 67, Lot 38A Ballston Spa, NY 12020 518-885-4399	**Soil Quality Map** 222 South Ferry Street Schenectady, NY	Date: June - 2020	*LEGEND* - Monitoring Well (Historic). - Soil Boring (PES). - Soil Boring/Monitoring Well (PES). - Historic Test Pit Outline (approx.) Yellow cells exceed unrestricted SCOs
Updated By : BN	Figure: 3	NYS DEC Site No. 447047	



PRECISION ENVIRONMENTAL SERVICES, INC 831 NYS Route 67, Lot 38A Ballston Spa, NY 12020 518-885-4399	**Groundwater Quality** 222 South Ferry Street Schenectady, NY	Date: June - 2020
Updated By : BN	Figure: 4	NYS DEC Site No. 447047

LEGEND

- Monitoring Well (Historic).
- Soil Boring (PES).
- Soil Boring/Monitoring Well (PES).
- Historic Test Pit Outline (approx.)

Tables

222 South Ferry Street Site
222 South Ferry Street, Schenectady, NY
NYSDEC Site No.: 447047

Groundwater Monitoring Well Gauging Data

Table 1

Well	Top of Casing*	Depth to Bottom	Measured Depth to Water	Relative GW Elevation
Gauged March 27, 2020				
MW-2	223.84	12.75	5.35	218.49
MW-5	224.51	12.25	5.48	219.03
MW-6	224.58	12.75	5.61	218.97
MW-8	224.00	12.46	5.00	219.00
MW-10	223.87	18.60	7.36	216.51
MW-12	224.19	14.15	5.70	218.49
MW-13	223.08	13.70	4.31	218.77
Gauged April 9, 2020				
PES-MW-4	223.88	9.58	4.81	219.07
PES-MW-5	224.07	12.90	5.17	218.90
PES-MW-6	224.30	13.85	5.04	219.26
MW-8	224.00	12.40	4.85	219.15
*Elevations as reported by Advanced Engineering and Surveying, LLC - October 11, 2019				
"PES" labelled wells surveyed by Precision, not licensed surveyor. Tied into other wells.				

222 South Ferry Street Site
222 South Ferry Street, Schenectady, NY
NYSDEC Site No.: 447047

Table 2

Soil Analytical Summary - April 3 & 6, 2020												
Analyte	Sample Identification											
	PES-B1 (4'-8')	**PES-B1 (12'-16')**	**PES-B2 (4'-8')**	**PES-B2 (8'-12')**	**PES-B2 (12'-16')**	**PES-B3 (4'-8')**	**PES-B3 (16'-20')**	**PES-B4 (4'-8')**	**PES-B4 (8'-10')**	**PES-B5 (4'-8')**	**PES-B5 (12'-16')**	***Soil Cleanup Objectives (Unrestricted)***
Volatiles - EPA 8260												
Acetone	ND	**220**	ND	**94**	**140 J**	**27**	**130**	ND	**360**	ND	**100**	*50*
2-Butanone (MEK)	ND	**42**	ND	ND	ND	ND	ND	ND	**91**	ND	ND	*-*
Trichloroethene	**12,000**	ND	**4,500**	ND	ND	**110**	ND	**61**	ND	**69**	**18**	*470*
cis-1,2-Dichloroethene	**830**	**67**	**440**	**3,500**	**16**	**13**	**3,000**	**14**	**59**	**34**	**100**	*250*
trans-1,2-Dichloroethene	ND	**110**	ND	**7.5**	**6.5**	ND	**62**	ND	ND	ND	ND	*190*
Vinyl Chloride	ND	ND	ND	**1,200**	ND	ND	**12 J**	ND	**100 J**	ND	**9.9 J**	*20*

Soil Analytical Summary - April 3 & 6, 2020											
Analyte	Sample Identification										
	PES-B6 (4'-8')	**PES-B6 (12'-16')**	**PES-B6 (20'-24')**	**PES-B7 (4'-7')**	**PES-B7 (15'-16')**	**PES-B9 (0'-4')**	**PES-B9 (12'-16')**	**PES-B9 (12'-16') Duplicate**	**PES-B10 (4'-8')**	**PES-B10 (8'-12')**	***Soil Cleanup Objectives (Unrestricted)***
Volatiles - EPA 8260											
Acetone	ND	**320**	**150**	**42**	**270**	ND	**85**	**68**	**1,400**	**58**	*50*
2-Butanone (MEK)	ND	ND	ND	ND	**67**	ND	ND	ND	**340**	ND	*-*
Trichloroethene	**2,800**	ND	ND	**2,000**	ND	**99**	**130**	ND	**45**	**1,900**	*470*
cis-1,2-Dichloroethene	**7**	**8,800**	ND	**350**	**17**	**9.4**	**7,300 J**	**3,300 J**	**31**	**11,000**	*250*
trans-1,2-Dichloroethene	ND	**2,000**	**2,600**	ND	**59**	ND	**130**	ND	ND	**220**	*190*
Toluene	ND	ND	**680**	ND	ND	ND	**680**	**480**	ND	ND	*700*
Vinyl Chloride	ND	**88 J**	ND	**12 J**	ND	ND	**4,800 J**	**1,000 J**	**21**	**1,200**	*20*

Laboratory analysis performed by Test America Laboratories, Inc.
All results reported in ug/kg
Only those compounds detected at one or more sample locations presented
Highlighted Value Exceeds Soil Cleanup Objectives according to 6 NYCRR Part 375
J = Data considered usable and estimated by independent data validator
ND = Not detected above the laboratories method detection limit

222 South Ferry Street Site
222 South Ferry Street, Schenectady, NY
NYSDEC Site No.: 447047

Table 3

Groundwater Analytical Summary								
Analyte	Sample Indentification							
	MW-2	**MW-5**	**MW-6**	**MW-8**	**MW-10**	**MW-12**	**MW-13**	***Part 703 Groundwater Satandard***
Collection Date	March 27, 2020							
Volatiles - EPA 8260								
Trichloroethene	ND	**150**	ND	ND	ND	ND	ND	*5*
cis-1,2-Dichloroethene	**3.9**	**41**	**130**	**25,000**	**330**	**6.9**	**43**	*5*
Vinyl Chloride	**13**	ND	**22**	**14,000**	**420**	**4.1**	**280**	*2*

Carbon dioxide	Not Analyzed	**120,000**	Not Analyzed
Methane		**490 J**	
Ethane		**320**	
Ethene		**3400 J**	
Iron (mg/l)		**22.2**	
Manganese (mg/l)		**2.5**	
Chloride (mg/l)		**114**	
Sulfate (mg/l)		**19.4**	
Alkalinity, Total (mg/l)		**360**	
Nitrate as N (mg/l)		**0.15**	
Sulfide (mg/l)		ND	
Total Organic Carbon (mg/l)		**5.1**	

Groundwater Analytical Summary					
Analyte	Sample Indentification				
	PES-MW-4	**PES-MW-5**	**PES-MW-6**	**PES-MW-6 Duplicate**	***Part 703 Groundwater Satandard***
Collection Date	April 9, 2020				
Volatiles - EPA 8260					
Trichloroethene	ND	**51**	**17**	**17**	*5*
cis-1,2-Dichloroethene	**310**	**3,200**	**60**	**42 J**	*5*
trans-1,2-Dichloroethene	ND	ND	**28 J**	**18 J**	*5*
Vinyl Chloride	**1,600**	**1500**	**240**	**230**	*2*

Laboratory analysis performed by Test America Laboratories, Inc.
All results reported in ug/L, unless otherwise noted
Only those analytes detected at one or more locations presented
Highlighted Value Exceeds Corresponding Groundwater Standard
ND = Not detected above the laboratories method detection limit
J = Qualified by independent validator as estimated result

Attachment
Regenesis Proposal

REGENESIS
REMEDIATION SERVICES
Technology-Based Solutions for the Environment

7/7/2020

To:	Brian Neumann, Precision Environmental Services 831 Route 67 Ballston Spa, NY 12020
Project #:	MaD66695
Subject:	Proposal for Full Scale Remedial Application Services Using 3-D Microemulsion®, S-MicroZVI®, and Bio-Dechlor INOCULUM® at 222 South Ferry St.

REGENESIS Remediation Services (RRS) appreciates the opportunity to evaluate this project and provide Precision Environmental Services with this proposal for a full scale *in-situ* application utilizing 3-D Microemulsion® (3DME), S-MicroZVI® (S-MicroZVI), and Bio-Dechlor INOCULUM® (BDI Plus) to remediate chlorinated solvent contamination present at the site. The site is located at 222 South Ferry St., Schenectady, NY 12305.

3DME is a pH neutral, slow release electron donor. It is delivered on-site as an injection ready emulsion. Neutral pH makes 3DMe ideal for use with pH-sensitive bioaugmentation cultures. The BDI Plus® (BDI Plus) culture includes Dehalococcoides to ensure complete dechlorination of the chlorinated ethenes.

BDI Plus is an enriched, natural microbial consortium containing species of *Dehalococcoides sp.* (DHC) which are capable of completely dechlorinating contaminants during *in situ* anaerobic bioremediation processes. BDI Plus has been shown to stimulate the rapid dechlorination of chlorinated compounds such as tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). It also contains microbes capable of dehalogenating halomethanes (e.g. carbon tetrachloride and chloroform) and haloethanes (e.g. 1,1,1 TCA and 1,1, DCA) as well as mixtures of these halogenated contaminants.

S-MicroZVI is an *In-Situ* Chemical Reduction (ISCR) reagent that promotes the destruction of many organic pollutants. It is engineered to provide an optimal source of micro-scale zero valent iron (ZVI) that is both easy to use and delivers enhanced reactivity with the target contaminants via multiple pathways. S-MicroZVI can destroy many chlorinated contaminants through a direct chemical reaction. S-MicroZVI will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favorable for reductive dechlorination.

Summary of Relevant Design Information

Source Area Application Event

- 3,600 square feet treatment area
- Vertical Treatment Interval –from 5 to 16 ft. bgs
  - Bottom up approach utilizing 36 locations
- Remediation Technologies:
  - 3DME – 2,800 lb.
  - S-MicroZVI – 2,100 lb.

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  - BDI Plus – 23 liters
- Solution Percentage – 6%
- Injection Volume – 6,476 gallons

Scope of Work

RRS will work under the direction of Precision Environmental Services to implement the field work associated with the application of the selected remediation technologies. Responsibilities for the implementation of this scope of work will be shared between RRS and Precision Environmental Services. Responsibilities for each are listed below and further under the Assumptions/Qualification section:

RRS Responsibilities

- **RRS** will provide and ship the specified quantities of 3DME, S-MicroZVI, and BDI Plus to the site prior to personnel mobilization. Please note the shipping estimate included as part of this cost was estimated assuming product will be shipped to project site location at 222 South Ferry St., Schenectady, NY 12305. Alternative shipping location or phases could result in an increase in total costs. RRS will work with you to the best of our ability to avoid shipping overages. If a different delivery address is requested, a change in cost may be warranted.
- **RRS** will provide qualified personnel and support equipment to handle, prepare, and apply the remediation technologies during application. The following tasks are included:
  - Mix and prepare the products for application
  - Injection equipment (pumps, mixing tanks, delivery manifold, injection heads with flow & pressure gauges, safety bypass valves, first aid station, etc.)
  - PPE and safety equipment for RRS personnel
  - 300 linear feet of 1.5-inch National Standard Fire Hose
- **RRS** will prepare and abide by a site-specific health and safety plan
- Budget crew to work up to 9.5 hours per weekday on site.
- **RRS** will water rinse empty 3DME and S-MicroZVI containers daily (totes/buckets).
- Demobilize equipment and personnel.
- **RRS** will perform real time reagent distribution monitoring for optimization of the injection design during the application activities if applicable.
- Application Summary Report including injection depths, material quantities, elapsed time, injection pressures, surfacing of material and other noteworthy field observations.

Precision Environmental Services Responsibilities

- **Precision Environmental Services** will receive product delivery at the site based on the scheduled work. **Precision Environmental Services** will unload product from delivery trucks utilizing a forklift or equivalent and arrange for secure storage near the work area during product application. The 3DME will be delivered in a 2000 lb. tote and 400 lb. drums. The S-MicroZVI will be delivered in 400 lb. drums and 50 lb. pails. The BDI Plus will be delivered in a cooler.
  - **RRS** can provide this service for an additional cost upon request.
- All empty product containers will be the responsibility of **Precision Environmental Services** for proper disposal/recycling. General refuse will be collected and disposed of in a **Precision Environmental Services** provided refuse container on-site.

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- **RRS** can provide this service for an additional cost upon request.

- **Precision Environmental Services** will provide a direct push contractor with the following equipment:
  - Direct push rig with an operator and driller helper/laborer for each rig capable of accessing all the work areas of the site where injection points will be placed
  - Direct push rods will be 1.5" Geoprobe® threaded rods and have a minimum of 100 linear feet of said rods in good working order at the site for injection activities
  - Other supplies needed for injection work includes Teflon or PVC tape for rod joints, 25-feet of quick link extension rods (or equivalent), granular bentonite, bentonite chips, and hole patch to close borings at ground surface (where needed)
    - **RRS** can provide this service at an additional cost upon request.
- Any traffic control requirement beyond providing cones and caution tape is the responsibility of **Precision Environmental Services**. If additional traffic control will be required it will be the responsibility of **Precision Environmental Services.**
- **Precision Environmental Services** will provide a field water quality meter similar to a YSI 556 with a down-hole sensor capable of reaching the water table and well screen interval while on-site for injection activities.
- **Precision Environmental Services** will provide access to a restroom during on-site hours.
  - **RRS** can provide this service at an additional cost upon request.
- **Precision Environmental Services** is responsible for securing any permits prior to mobilizing to the site.
- **Precision Environmental Services** is responsible for all soil, air and groundwater sampling and analysis.
- **Precision Environmental Services** is responsible for transportation and disposal of any contaminated waste generated on-site during injection activities, though we do not anticipate generating any such waste during injection activities
- **Precision Environmental Services** will provide a water source (e.g. hydrant) capable of producing at least 30 gpm for the duration of the project within 300 ft. of the project staging area, at no cost to RRS. **Precision Environmental Services** will coordinate and provide a backflow preventer for on-site hydrants utilization if needed. **Precision Environmental Services** will provide RRS with the water source output fitting and size before onsite work begins.
  - **RRS** can provide this service at an additional cost upon request.

Project Cost

We have estimated the following cost for implementation of the remedial design by our remediation services division, RRS. A breakdown for materials and services is shown below.

- Remediation Products - $39,368.16 (invoiced after product shipment)
- RRS Application Services - $17,663.48 (invoiced upon completion of work)
- Total Estimated Project Cost - **$57,031.64**

The cost provided above are inclusive of all products, product mixing, injection services, materials, estimated shipping and tax to complete the work. Payment terms are net 30 days upon invoice submittal.

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***Please note that this pricing is contingent upon completion of this scope of work without delays or work stoppages once mobilization occurs. RRS has allotted 3 on-site working days (9.5-hr days, Monday through Friday) to apply the remediation technologies. If the application is completed ahead of schedule or behind schedule, a daily rate of $3,000.00 will be subtracted or added to the invoice price.**

RRS reserves the right to modify the design and associated cost if additional information gathered warrants modification. Invoicing may or may not be further broken into multiple invoices to cover the entire cost associated with work.

Critical Design Assumptions

In generating this design proposal, REGENESIS relied upon professional judgment and site-specific information provided by others. Using this information as input, we performed calculations based upon known chemical and geologic relationships to generate an estimate of the mass of product and subsurface placement required to affect remediation of the site. The attached design summary tables specify the assumptions used in preparation for this technical design. We request that these modeling input assumptions be verified by your firm prior to application of PlumeStop.

Assumption/Qualifications

In generating this proposal, REGENESIS relied upon professional judgment and site-specific information provided by others. Using this information as input, we performed calculations based upon known chemical and geologic relationships to generate an estimate of the mass of product and subsurface placement required to affect remediation of the site. Other assumptions and qualifications related to this proposal are as follows:

- The above cost outlined will be valid for 60 days from date or proposal. If beyond 60 days, REGENESIS reserves the right to update cost.
- If applicable, sales tax charges for product, freight, and services are considered estimated at the time of proposal submittal. The appropriate sales tax category (i.e., product, freight, and services) and actual sales tax rate is finalized at the time of invoice and may change from date of proposal submittal.
- **Precision Environmental Services** personnel will take delivery of the product will arrange for secure storage. If additional deliveries are requested, changes to the price will be incorporated as necessary. If material needs to be stored off-site, **Precision Environmental Services** personnel will coordinate the delivery of the material to the site.
- RRS will have access to the site for equipment operation and secure storage of materials and equipment. Access to each work area location will be clear and free of obstructions. RRS assumes the injection trailer will be staged within 80 ft. of the furthest injection point location.
- Pricing and work schedule assume union labor and prevailing wages (Davis-Bacon) are not required.
- This proposal assumes probing and drilling will begin at the ground surface. If hand auger, concrete/asphalt coring, or air knife services are required, additional charges, including surface restoration charges could apply.

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- **Precision Environmental Services** will mark out injection points and call in a public utility locate for the area in or near the direct push injection zones. All private, on-site underground utilities and any known subsurface features (e.g., piping, storage tanks, septic systems, etc.) will be clearly marked/cleared by **Precision Environmental Services** prior to RRS mobilization to the site. RRS is not responsible for damage to any unmarked utilities or subsurface features. If as-built drawings are available for any on-site subsurface features, RRS request the right to review these drawing with the **Precision Environmental Services** to confirm clearance for the advancement of DPT injection points.
- For safety reasons, access to the treatment area will be limited to RRS and **Precision Environmental Services** personnel. RRS will provide delineators and cones to section off working areas.
- The remediation design and injection procedures contain the necessary precautions to minimize the likelihood of surfacing of the treatment chemistry. RRS will monitor treatment chemistry application flow rates and pressures as well as observe for signs of reagent surfacing around active injection areas. If surfacing is detected, RRS will stop or slow down injection activities at that location to stop additional surfacing and remove/vacuum up recoverable surfaced fluid. RRS is not be responsible for treatment chemistry infiltration into undesired locations beyond our visible control.
- RRS personnel can have access to site for work up to 12 hours per day Sunday-Saturday, though, in generating the costs, a 9.5-hour, Monday through Saturday work day schedule was assumed. Additional charges will be applied for Saturday and/or Sunday work schedules.
- RRS assumes that there will be complete site access, with no areas being blocked by persons, vehicles or buildings. The injection flow rates and schedule are based on having zero site obstructions.
- RRS assumes that direct-push style drill rig can access all injection point locations and drive injection tooling to the required depth. If site conditions limit the use of the provided direct-push rig for any injection point and other drilling methods are required to complete the task, additional charges will apply.
- All injection points will be closed/backfilled with bentonite to ground surface by **Precision Environmental Services**.
- Site conditions can change over time and should be monitored post injection. REGENESIS is not responsible for changing site conditions after completing the scope of work and demobilizing from the site. This includes but is not limited to changes related to borehole abandonment (i.e., swelling of backfill material), surface restoration, well conditions, and on-site utilities.

Note* REGENESIS developed this Scope of Work in reliance upon the data and professional judgments provided by those whom completed the earlier environmental site assessment(s). The fees and charges associated with the Scope of Work were generated through REGENESIS' proprietary formulas and thus may not conform to billing guidelines, constraints or other limits on fees. REGENESIS does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where REGENESIS may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by REGENESIS, it is the sole responsibility of the entity seeking reimbursement to ensure the Scope of Work and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from the Government, REGENESIS does not knowingly present or cause to be presented any claim for payment to the Government.

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We sincerely appreciate the opportunity to present you with this proposal. If you need any additional information, please feel free to contact Will Clogan at 724-766-1811 or Maureen Dooley at 781-245-1320.

REGENESIS

Maureen Dooley
Director of Strategic Projects

Will Clogan
Remediation Services Project Manager

Attachments: Terms and Conditions; Assumptions and Qualifications

Please sign below to acknowledge acceptance of proposal **MaD66695 dated July 7th, 2020** for **the Ferry St. Site** and authorize RRS to perform stated work:

PRECISION ENVIRONMENTAL SERVICES

_____

Authorized Signature Date

_____

Name (print) P.O. or Project Number

Signature above confirms signee has reviewed the proposal and agrees with all outlined responsibilities and assumptions/qualifications. Below is a list of next steps toward implementation of this project. Please note these steps may take 4-6 weeks to complete depending upon the complexity of the project and previous experience with your company. REGENESIS Remediation Services will contact you soon to begin the implementation process.

Steps to Project Implementation

- Sign acceptance of proposal
- Finalize contract documents incorporating this proposal or formal REGENESIS Subcontract Agreement
- Confirm account credit status
- Complete remediation services logistics evaluation
- Confirm delivery address and date
- Schedule application

1011 Calle Sombra • San Clemente, CA 92673 • Tel: 949.366.8000 •

REGENESIS

Project Information		
222 South Ferry St.		
Schenectady, NY		
Source Area		
Prepared For:		
Client (Firm)		
Target Treatment Zone (TTZ) Info	**Unit**	**Value**
Areal Extent	sq ft	3,600
Top Treat Depth	ft	5.0
Bot Treat Depth	ft	16.0
Vertical Treatment Interval	ft	11.0
Treatment Zone Volume	ft^3	39,600
Treatment Zone Volume	cy	1,467
Soil Type	---	silty sand
Porosity	cm^3/cm^3	0.40
Effective Porosity	cm^3/cm^3	0.20
Treatment Zone Pore Volume	gals	118,491
Treatment Zone Effective Pore Volume	gals	59,246
Fraction Organic Carbon (foc)	g/g	0.003
Soil Density	g/cm^3	1.6
Soil Density	lb/ft^3	100
Soil Weight	lbs	4.0E+06
Hydraulic Conductivity	ft/day	10.0
Hydraulic Conductivity	cm/sec	3.53E-03
Hydraulic Gradient	ft/ft	0.005
GW Velocity	ft/day	0.25
GW Velocity	ft/yr	91
Contaminant Mass	**Unit**	**Value**
Dissolved Phase Contaminant Mass	lbs	43
Sorbed Phase Contaminant Mass	lbs	23
Competing Electron Acceptor Mass	lbs	89
Total Mass Contributing to H2 Demand	**lbs**	**155**
Mass Flux and 3DME Demand	**Unit**	**Value**
Groundwater Flux	L/day	934
Stoichiometric 3DME Demand	lbs	531
Total Mass Flux 3DME Demand	lbs	480
Toral 3DME Demand	**lbs**	**1,012**
Application Dosing		
3-D Microemulsion to be Applied	**lbs**	**2,800**
S-MZVI to be Applied	**lbs**	**2,100**
BDI Plus to be Applied	**liters**	**23**

3-D Microemulsion®, S-MZVI®, CRS®, BDI® Plus Application Design Summary

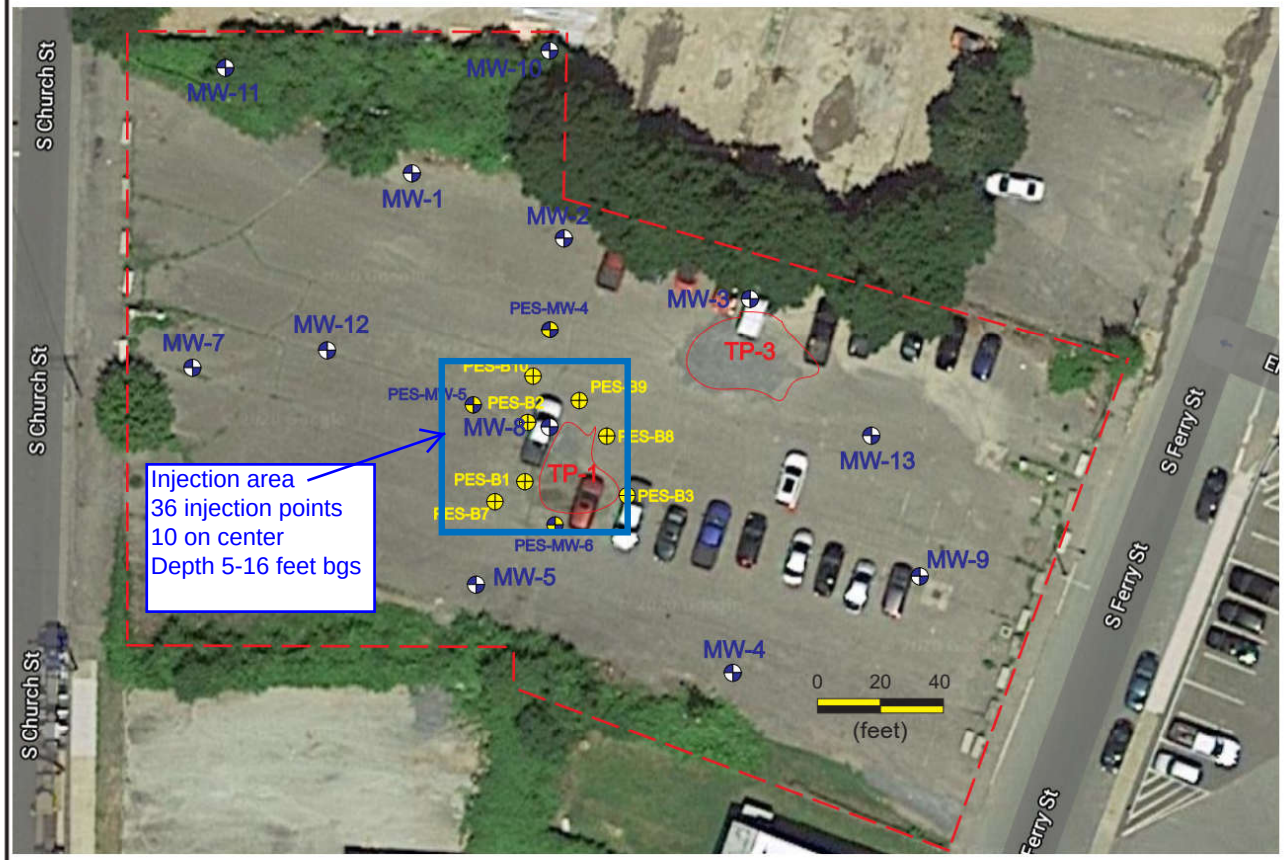
Source Area		
Treatment Type	**Grid**	
Treatment Areal Extent (sq ft)	3,600	Input special application instructions here as needed.
Spacing Within Rows (ft)	10	
Spacing Between Rows (ft)	10	
DPT Injection Points	36	
Top Application Depth (ft bgs)	5	**Field Mixing Ratios**
Bottom Application Depth (ft bgs)	16	3DME Concentrate per Pt (gals)
3DME to be Applied (lbs)	**2,800**	9
3DME to be Applied (gals)	336	Mix Water per Pt (gals)
3DME Mix %	6%	160
Volume Water (gals)	**5,765**	3DME Mix Volume per Pt (gals)
3DME Mix Volume (gals)	6,101	169
S-MZVI to be Applied (lbs)	**2,100**	S-MZVI Volume per Pt (gals)
S-MZVI Volume (gals)	139	4
BDI Plus to be Applied (L)	**23**	BDI Volume per Pt (L)
BDI Plus Mix Water Volume (gals)	230	0.6
Total Application Volume (gals)	**6,476**	Volume per pt (gals)
Estimated Radius of Injection (ft)	2.6	180
Prepared by: Name-Title		Volume per vertical ft (gals)
Date: 7/2/2020		16

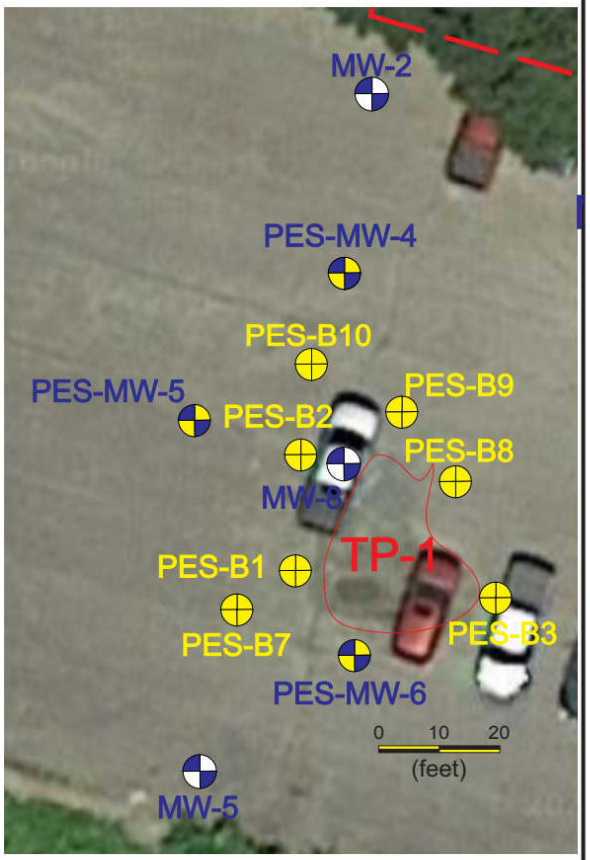
Technical Notes/Discussion

Assumptions/Qualifications

In generating this preliminary estimate, Regenesis relied upon professional judgment and site specific information provided by others. Using this information as input, we performed calculations based upon known chemical and geologic relationships to generate an estimate of the mass of product and subsurface placement required to affect remediation of the site.

REGENESIS developed this Scope of Work in reliance upon the data and professional judgments provided by those whom completed the earlier environmental site assessment(s). The fees and charges associated with the Scope of Work were generated through REGENESIS' proprietary formulas and thus may not conform to billing guidelines, constraints or other limits on fees. REGENESIS does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where REGENESIS may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by REGENESIS, it is the sole responsibility of the entity seeking reimbursement to ensure the Scope of Work and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from the Government, REGENESIS does not knowingly present or cause to be presented any claim for payment to the Government.





PRECISION ENVIRONMENTAL SERVICES, INC 831 NYS Route 67, Lot 38A Ballston Spa, NY 12020 518-885-4399	**General Site Map** 222 South Ferry Street Schenectady, NY	Date: June - 2020 See Bar Scale - Each Image NYS DEC Site No. 447047	LEGEND - Monitoring Well (Historic). - Soil Boring (PES). - Soil Boring/Monitoring Well (PES). - Historic Test Pit Outline (approx.)
Updated By : BN	Figure: 2		

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

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

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

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

Community Air Monitoring Plan

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

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

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

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009