

Former Marble Quarry Landfill
109-125 Marbledale Road
Tuckahoe, New York

NYSDEC Brownfield Cleanup Program #C360143

Community Meeting #1
November 16, 2016



HydroEnvironmental
SOLUTIONS, INC.

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Supplemental Environmental Work Completed Since September 27, 2016

- Installation of five deep soil borings (to depths of 22 to 87 feet)
- Three deep bedrock wells (to depths of 85 plus ftbg)
- Three shallow wells (depths ranging from 20 to 40 ftbg)
- Collection of soil samples from each deep boring location for full parameters list
- Collected two samples for Dioxins and split samples with the NYSDEC
- Collection of soil pre-characterization samples: 18 of 49 borings completed as of 11/14/16; Source Area Borings Complete
- Soil Vapor Extraction (SVE) Pilot Test Well Installation – Four Wells and Twelve Monitoring Points Completed

Hollow Stem Auger and Air Rotary Drilling



Installing Deep Bedrock Monitor Wells



Air Monitoring Station



Air Monitoring Instrumentation



Rock Coring

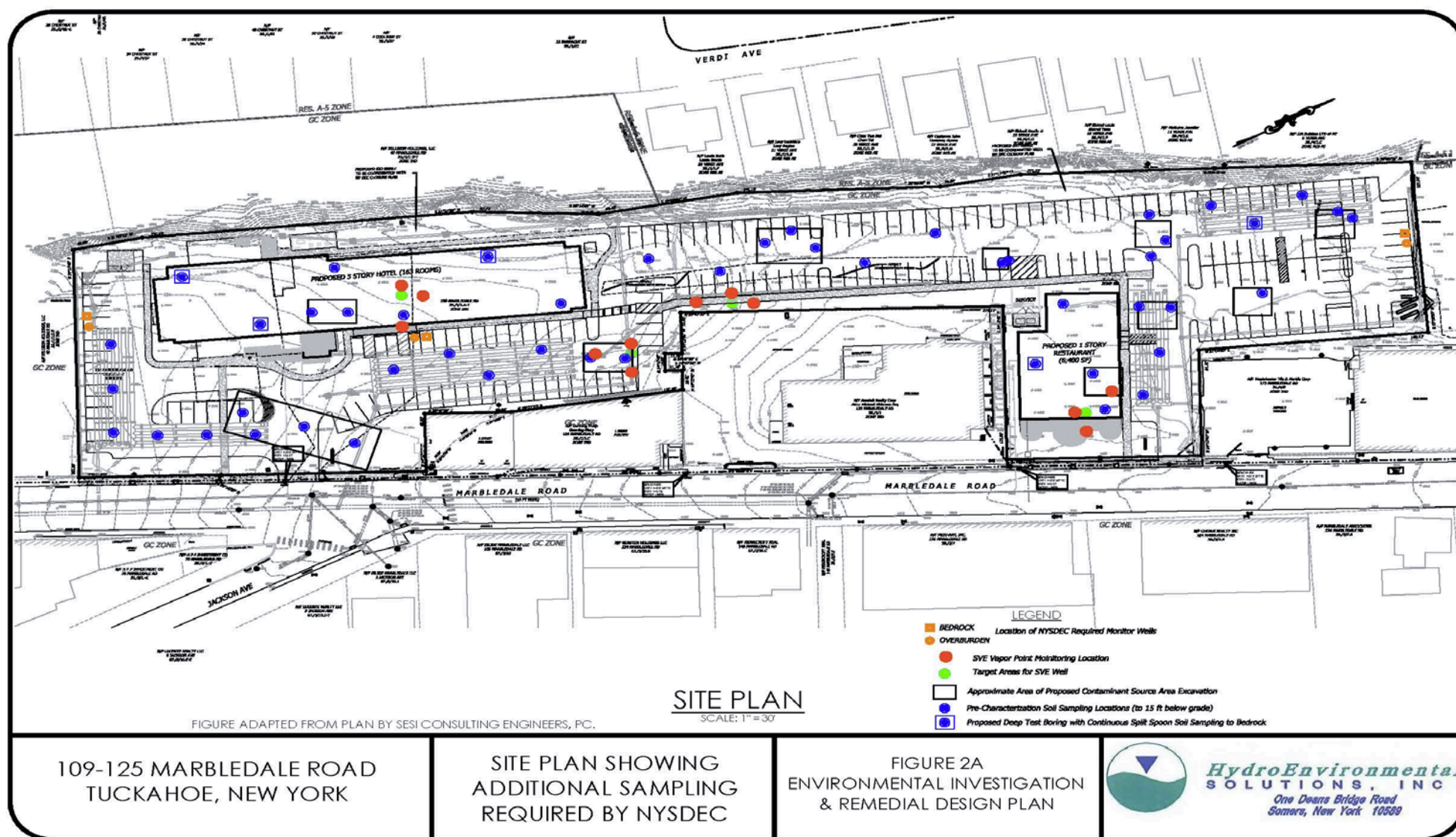


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SVE Well Point Installation



Site Plan Showing Supplemental Environmental Work



Remaining Environmental Work to be Completed in November 2016

- Conduct SVE Pilot Test on Four SVE Wells
Setup Wednesday November 16, 2016
Pilot Testing November 17 through 22, 2016
- Conduct at least two rounds of Groundwater Monitoring (depth to water) of all on-site Wells
Measure all on-site monitor wells, schedule licensed site survey
- Develop (surge and pump the new wells) Newly Installed Wells (Bedrock and Shallow Wells)
Pump wells using a submersible pump, purge using a bailer
- Conduct Groundwater Sampling of New Wells
VOCs, SVOCs, TAL Metals, Herbicides/Pesticides, PCBs
- Finish Pre-Characterization Soil Borings and Sampling (26 Borings remaining)

Supplemental Environmental Work General Information

- All Supplemental Environmental Work Completed to Date was conducted under the Direct Supervision of the NYSDEC and Village Environmental Consultant (HDR)
- All work conducted was compliant with approved RAWP and Decision Document.
- The Environmental Work was conducted in accordance with the October 19, 2016 Village Board approved Resolution and the NYSDEC and HDR approved Supplemental Environmental Investigation and Remedial Design Work Plan
- The work was completed in accordance with the approved CAMP, QAPP and HASP
- The work was completed in accordance with DER-10 and all applicable NYSDEC Guidelines and Regulations pertaining to BCP Sites

Supplemental Environmental Work Preliminary Results

CAMP Results: No dust or VOC action level exceedances were observed during the first two months of supplemental environmental work both on- and off-site.

On-site HASP Monitoring: No exceedances were observed in the work space or on-site during the first two months of supplemental environmental monitoring including VOCs, %LEL, % Oxygen

Radioactivity Screening by NYSDEC: NYSDEC monitoring for radioactivity did not detect anything above natural background levels in all soil samples analyzed during continuous soil sampling related to the shallow monitor wells (OW-1 and OW-2) installation and the deep test borings (DB-1 through DB-5).

Supplemental Environmental Work Preliminary Results (continued)

Deep Soil Borings Results (DB-1 through DB-5)

The following exceedances of Commercial SCOs were observed:

- PAHs at DB-4 (16-20 ftbg) and DB-5 (4-6 ftbg) for Benzo(a)anthracene and Dibenzo(a,h)anthracene at DB-5 (4-6 ftbg).
- Metals including arsenic and lead at DB-1 (5-9 ftbg) and DB-3 (57-59 ftbg), respectively. Cadmium at DB-2 (70-74 ftbg).
- Numerous exceedances were noted in soil for VOCs, SVOCs, pesticides and metals when compared to UUSCOs. However, UUSCOs are not applicable to subject site.

Supplemental Environmental Work Preliminary Results (continued)

Dioxin Soil Results:

- Two Samples split with the NYSDEC
- Dioxin Soil Results are compared to the World Health Organization (WHO) 2005 Toxicity Equivalent Values (TEQ) for soils, however, they are not a guidance number or standard as there is none in New York State.
- When results compared to TEQ they indicate that trace concentrations of Dioxin are present in soil and are below the guidance identified for soil. Nonetheless, continuing to minimize dust and monitoring is still the recommended approach.
- Both NYSDEC and HES collected Dioxin samples indicate the same result and are similar.
- NYSDOH has looked at the results and concluded that the CAMP dust action level has adequate margin of safety for Dioxin TEQs in the range detected.

Proposed Future Construction Work – Order of Operations

Projected Startup Date - December 15, 2016

1. Data compilation and review to determine if any modifications to the Work Plan are necessary regarding excavation and soil moving/CAMP. NYSDEC and HDR review of foundation/compaction plan. Confirm Resolution being followed.
2. Clear and Prepare Site
3. Excavate and Dispose of Source Material Areas at off-site Disposal Facility
4. Implement Site-Wide Cut and Fill Plan
5. Install Site Utilities, Stormwater Retention Systems and SVE System(s). Design SVE/SSDS, review and approval of same by NYSDEC.
6. Second round of groundwater sampling.
7. Foundation and Geotechnical Assessment – Carlin Simpson Geotechnical Engineer to provide in next several weeks. Foundation approach (piles, dynamic compaction, etc. is still being evaluated).
8. Install Building Foundations – Hotel and Restaurant.
9. Install Vegetative and Engineered Site Wide Caps. Third round of groundwater sampling.

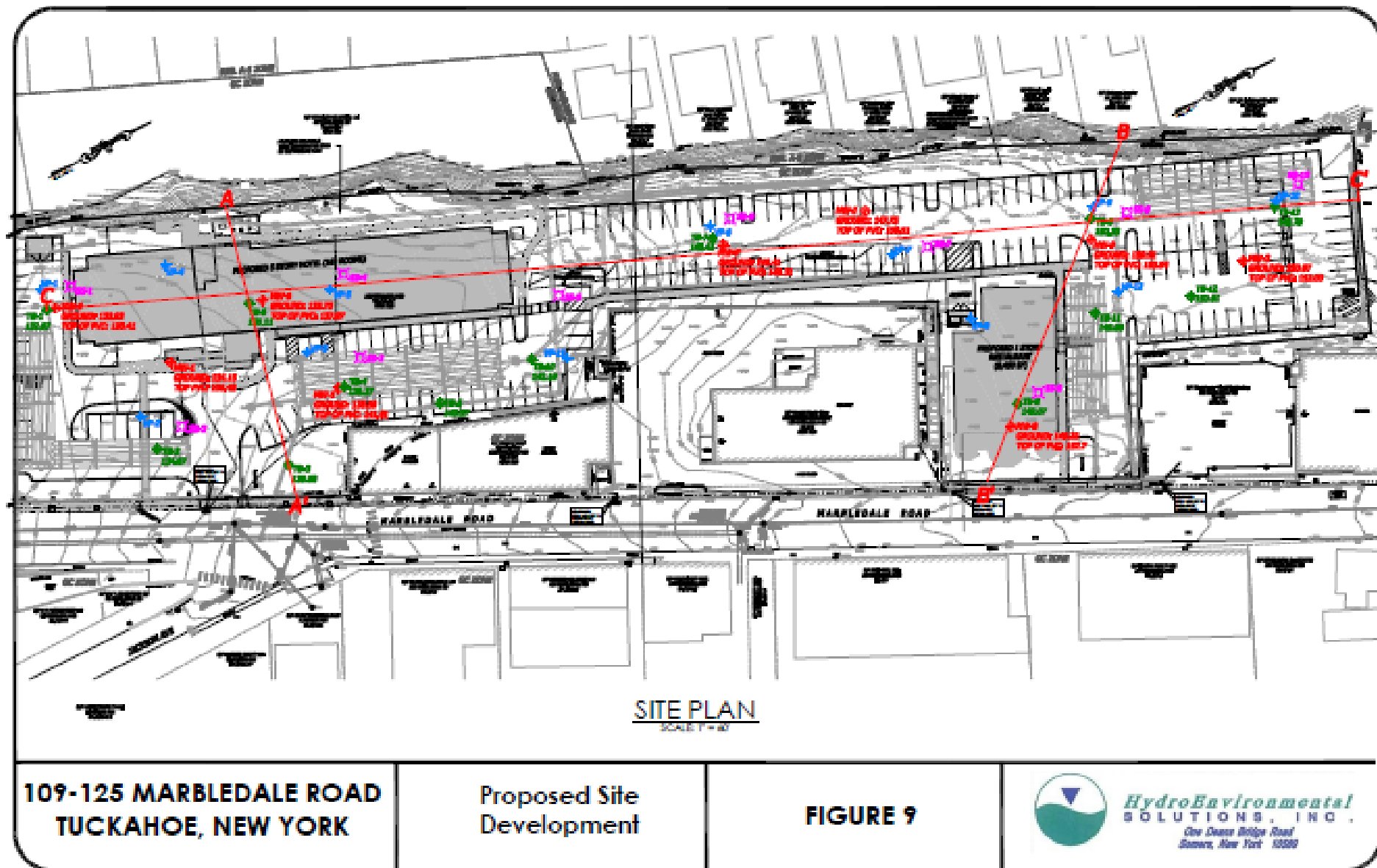
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Task Name - NYSDEC Approved RAWP	Duration	Start	Finish
Contaminant Source Material Removal and Disposal	30 Days	12/1/2016	12/31/2016
Design and Install Site Wide Cap	120 Days	1/1/2017	4/30/2017
Design and Install Sub Slab Depressurization and SVE Systems	150 Days	5/1/2017	9/30/2017
Compile NYSDEC BCP FER and SMP	90 Days	10/1/2017	12/31/2017
Task Name - Supplemental RAWP Environmental Work	Duration	Start	Finish
Implement Site Wide Soil Pre-Characterization	30 Days	11/7/2016	12/7/2016
Install Three Sets of Nested Monitor Wells (Bedrock and Overburden)	14 Days	10/11/2016	10/31/2016
Install Four SVE Wells and Nine Vapor Monitoring Points	4 Days	10/20/2016	10/28/2016
Conduct SVE Pilot Test	5 Days	11/14/2016	11/19/2016
Conduct Groundwater Monitoring and Sampling (3 field days, One Year Duration)	3 days	11/14/2016	11/14/2017
Compile Supplemental Work Summary Letter	30 Days	11/20/2016	12/20/2016
Design SVE System and Compile SVE Design Report	30 Days	11/20/2016	12/20/2016

Proposed Future Site Development



Thank You for Attending the Tuckahoe
Community Meeting Related to the
Marbledale BCP Site!

Questions?