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August 17, 2017

VIA ELECTRONIC MAIL

Ms. Lisa Lewis, Contract Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Program Management
Contracts and Payment Section
625 Broadway, 12th Floor
Albany, New York 12233-7016

Re: Standby Engineering Contract
Work Assignment (WA) No. D007620-35
Rosendale Cleaners – Site No. 356050
TRC Project No. 278398.0000.0000

Dear Ms. Lewis:

Enclosed please find a proposed scope of work, cost estimate, work assignment package checklist, M/WBE utilization plan, and subcontractor documentation for the above-referenced work assignment for your review and consideration. In accordance with the work assignment issuance/notice to proceed letter dated April 20, 2017 and subsequent communications with the Department, the proposed scope of work consists of the following tasks:

- Task 1– Preliminary Activities
- Task 2 – Remedial Investigation (RI) Field Activities
- Task 3 – Interim Remedial Measure (IRM)
- Task 4 – RI Report
- Task 5 – Detailed Analysis of Alternatives (Feasibility Study) and Remedy Selection
- Task 6 – Public Meeting

As a result of the May 18, 2017 meeting at the Site and subsequent discussions with the Department, an increased level of effort for implementation of an IRM has been added to the scope of the project resulting in a WA budget \$112,962 higher than the costing template amount of \$250,000.

The scope of work presented in Schedule 1 provides a description of each proposed task and a proposed sampling plan (Figure 1). A proposed project schedule is also provided in Schedule 1. The estimated costs to complete the work (i.e., Schedule 2.11s) and work assignment checklist are presented in Schedule 2. The M/WBE Utilization Plan is provided in Schedule 3.

As indicated on the project schedule, it is anticipated that TRC will be authorized to proceed in September 2017 and the work assignment will be completed in late 2018.

As shown in the Schedule 2.11s, the proposed budget for the work assignment is \$362,962.

If you have any questions or comments, please do not hesitate to contact me via e-mail at meflanagan@trcsolutions.com, in the office at (518) 688-3154, or on my mobile phone at (518) 894-1182.

Sincerely,
TRC Engineers, Inc.



Marc E. Flanagan
Program Manager

CC: J. Miller (NYSDEC)
R. Jorrey (TRC)
D. Glass (TRC)
M. Wright (D&B)



SCHEDULE 1
SCOPE OF WORK
ROSENDALE CLEANERS
WA No. D007620-35
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

SCHEDULE 1 – SCOPE OF WORK
ROSENDALE CLEANERS
WA No. D007620-35
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Task 1 – Preliminary Activities

File Review (Completed)

TRC Engineers, Inc. (TRC) will review available project documents provided by the New York State Department of Environmental Conservation (Department) under this task. The intent is to obtain an understanding of known soil and groundwater contamination and potential impacted areas associated with the Rosendale Cleaners Site (Site) for the purposes of developing Remedial Investigation/Feasibility Study (RI/FS) scope-related recommendations.

Site Meeting/Inspection (Completed)

The Site Investigation Area includes the Rosendale Cleaners Site property located on Route 32 in the Town of Rosendale, Ulster County, New York (refer to attached **Figure 1**) herein referred to as the “Site.” TRC will meet with the Department Project Manager to discuss previous environmental investigation results and the approach to executing the RI. TRC will also conduct an inspection under this task to review existing physical features, topography and access.

Preparation of Schedules 2.11s

TRC will prepare Schedule 2.11s consistent with the Department’s requirements. As part of this task, TRC will coordinate with subcontractors to obtain cost estimates based on the scope of work. The Schedule 2.11s will be reviewed by the Contract Manager (Maria Wright of Dvirka and Bartilucci Consulting Engineers (D&B)) prior to submission to the Contracts and Payment Section.

Task 2 – Remedial Investigation Field Activities

Mobilization

TRC will prepare for the RI and coordinate field work with the selected laboratory, direct push and hollow-stem auger drilling subcontractors, interim remedial measure (IRM) implementation subcontractor, land surveyor, and investigation derived waste disposal subcontractor under this task. TRC will confirm that the drilling and IRM subcontractors have contacted the One Call Center (or the appropriate utility locating service), received/reviewed confirmation receipts from each utility, and verified mark-outs prior to intrusive work. TRC will confirm that the selected subcontractors obtain required permits and approvals (as applicable). TRC will also prepare the site-specific information form in Exhibit 11 of the generic health and safety plan (HASP).



Community Air Monitoring Plan

TRC will implement a Community Air Monitoring Plan (CAMP) during ground intrusive activities in accordance with the New York State Department of Health (NYSDOH) generic CAMP in Appendix 1A of DER-10. The CAMP will include real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each work area during intrusive work. The estimated cost for this task is based on performing the CAMP during advancement of soil borings and the installation of monitoring wells and during IRM implementation, but not during monitoring well development or sampling. The CAMP will be implemented by the scientist/engineer overseeing the investigation activities.

Direct Push Soil Borings

A track-mounted direct push drill rig (Geoprobe® Series 6620 or similar) will be used to advance eight (8) soil borings in the southern portion of the Site, near the former debris pile, as shown on the attached **Figure 1**, to approximately fifteen (15) feet below ground surface (bgs).

At each direct push soil boring location, soil samples will be collected continuously. Soil samples will be screened for VOCs using a photoionization detector (PID, with an 11.7 eV lamp), inspected for indications of contamination (e.g., staining, odors, etc.) and characterized using the Unified Soil Classification System (USCS). Geologic descriptions of the soil and field screening results will be recorded.

Up to two (2) soil samples will be selected for laboratory analysis from each soil boring. Soil samples will be selected for analysis based on field observations and PID readings. Soil samples exhibiting the greatest evidence of impact will be selected for analysis. If there is no evidence of impact in a boring the sample from the deepest interval recovered will be selected for laboratory analysis. Soil samples selected for analysis will be submitted to TestAmerica for analysis of Target Compound List (TCL) VOCs by United States Environmental Protection Agency (USEPA) Method 8260C.

A groundwater “grab” sample will be collected from each direct push boring at the deepest interval. The groundwater “grab” samples will be collected in laboratory supplied glassware by lowering dedicated Teflon-lined high-density polyethylene (HDPE) tubing down the center of the direct push drill rods into a four-foot long stainless steel screen at the bottom of the drive rods. The sample interval will be purged to minimize turbidity in the sample and field water-quality parameters (pH, conductivity, temperature, turbidity, dissolved oxygen and oxidation-reduction potential (ORP)) will be recorded prior to sample collection. Purge water will be containerized for off-site disposal.

Groundwater samples selected for analysis will be submitted to TestAmerica for analysis for TCL VOCs by USEPA Method 8260C.

Quality control samples, including matrix spike and matrix spike duplicates, will be collected at a minimum frequency of one per twenty samples in accordance with the generic QAPP. Trip blanks will be included in each cooler shipped to the laboratory containing groundwater samples for VOC analysis. The laboratory will provide Category B data deliverable packages, EDDs in EQuIS format will be submitted to the Department, and the results will be presented in the RI Report. After receipt of the laboratory results, TRC will submit an interim email report to the Department presenting the results of the direct push soil and groundwater sampling.

Groundwater Monitoring Well Installation

Up to four (4) groundwater monitoring wells will be installed at locations determined in consultation with the Department, following review of the results of direct-push soil and groundwater sampling. It is expected that one (1) of the four (4) monitoring wells will be MW-15R, to be installed as part of the implementation of the IRM (refer to Task 3 below).

Each boring will be advanced using 4.25-inch inside diameter hollow stem augers and will be sampled continuously through the proposed screen interval to confirm subsurface conditions. Soil samples will be screened for VOCs using a PID (with an 11.7eV lamp), inspected for indications of contamination (e.g., staining, odors, etc.) and characterized using the USCS. The results of field screening and inspection will be recorded in the field log book. Laboratory analysis of soil samples collected from monitoring well boreholes is not anticipated.

Each monitoring well will be constructed using two-inch diameter PVC risers and twenty (20) foot screen lengths. Each well will be completed at grade with a 6-inch diameter flush-mount protective casing set in a concrete pad. The anticipated completion depth for each well is 30 feet bgs.

Groundwater Monitoring Well Development

At least 24 hours after installation, each of the four (4) newly installed and fifteen (15) known existing monitoring wells will be developed by surging and pumping techniques. Development will be considered complete when either turbidity is below 50 nephelometric turbidity units (NTUs), the well purges dry, or 10 well volumes have been removed, whichever occurs first.

Sampling of Groundwater Monitoring Wells

Groundwater samples will be collected from the four (4) newly installed and fifteen (15) existing monitoring wells. Following screening of the well head space with a PID, the monitoring wells will be gauged for total well depth, depth to water, and if present, depth to NAPL. Groundwater

samples from the monitoring wells will be collected via low flow sampling techniques in accordance with the QAPP. The field data will be recorded in the field log book. Depth to water measurements will be used to prepare groundwater surface elevation contour maps, to be provided in the RI report.

Groundwater samples will be submitted to TestAmerica for analysis for:

- TCL VOCs by USEPA Method 8260C
- 1, 4-dioxane by USEPA Method 8270 by Selected Ion Monitoring (SIMs)
- Per- and Polyfluoroalkyl Substances (PFAs) by Modified USEPA Method 537 Revision 1.1¹

Quality control samples, including matrix spike and matrix spike duplicates, will be collected at a minimum frequency of one per twenty samples in accordance with the generic QAPP. Trip blanks will be included in each cooler shipped to the laboratory containing groundwater samples for VOC analysis. The laboratory will provide Category B data deliverable packages, EDDs in EQuIS format will be submitted to the Department, and the results will be presented in the RI Report.

Site Survey

A Site Survey has been completed as part of the previous investigation of the 1083 Route 32 Rosendale Site and includes physical features and a property boundary survey. The physical features survey will be updated to show site features including:

- The types and limits of ground surface coverings (e.g., grass, asphalt, gravel, stone, etc.).
- Four (4) newly installed wells, including for each well the well identification number, the location (coordinates) and ground surface elevation, top of protective casing elevation, and top of PVC riser elevation.
- The locations (coordinates) and ground surface elevations for approximately eight (8) direct-push soil borings.

In addition, a property boundary survey will be furnished by the land surveying subcontractor. The property boundary survey will encompass the site investigation area. Property boundaries shown on the survey will be approximate, based on tax maps and not a certified boundary

¹ Results for the following compounds will be reported: Perfluoro-n-butanoic acid (PFBA), Perfluoro-n-pentanoic acid (PFPeA), Perfluoro-n-hexanoic acid (PFHxA), Perfluoro-n-heptanoic acid (PFHpA), Perfluoro-n-octanoic acid (PFOA), Perfluoro-n-nonanoic acid (PFNA), Perfluoro-n-decanoic acid (PFDA), Perfluoro-n-undecanoic acid (PFUdA), Perfluoro-n-dodecanoic acid (PFDoA), Perfluoro-1-butanefulfonic acid (PFBS), Perfluoro-1-hexanesulfonic acid (PFHxS), Perfluoro-1-heptanesulfonic acid (PFHpS), Perfluoro-1-octanesulfonic acid (PFOS), Perfluoro-1-decanesulfonic acid (PFDS), , Perfluorooctane Sulfonamide (FOSA), Perfluorotetradecanoic acid (PFTeA), Perfluorotridecanoic acid (PFTrDA).

survey. The survey will indicate block and lot numbers and note current owners. Owners and lot and block numbers of bordering properties will also be shown.

A survey drawing, signed and sealed by a Professional Land Surveyor (PLS), will be provided in the RI Report and used in generating groundwater surface elevation contour maps for the Site.

Investigation Derived Waste

Investigation derived waste (IDW) is anticipated to include the following: decontamination fluids, well purge and development water, and soil cuttings. To the extent feasible, soil cuttings will be returned to borings, as prescribed in DER-10 Technical Guidance for Site Investigation and Remediation paragraph 3.3(e)(1), unless grossly contaminated. Soil exhibiting evidence of gross contamination will be segregated and containerized separately. Wash and rinse water used for equipment decontamination, development water, purge water, and soil cuttings (as appropriate) will be containerized in DOT-approved 55-gallon drums for off-site disposal. Used PPE and disposable sampling equipment will be bagged as regular refuse and disposed as solid waste, unless grossly contaminated.

Materials containerized for off-site disposal will be staged on pallets at a location that is acceptable to the Department and the property owner. Containerized materials will be clearly marked to indicate the contents of the containers, the date of generation, and the source of the material.

Task 3: Interim Remedial Measure

It is anticipated that following the completion of the RI Field Activities the Department will authorize TRC to implement an Interim Remedial Measure (IRM) to address suspect source area impacts at the Site. TRC will prepare a bid package for implementation of the IRM that will include drawings, specifications, a bid sheet and a subcontract agreement for obtaining quotes for a scope of work developed in consultation with the Department. A draft of the bid package will be provided to the Department for review and comment prior to soliciting bids.

As part of preparation of this work assignment package, TRC has obtained contractor cost estimates for implementation of an IRM specified in the Scope of Work document prepared previously for the 1083 Route 32 Rosendale Site. The contractor cost estimates, as well as TRC's estimated costs, serve as the basis for a "place holder" budget in this work assignment package for implementation of the IRM.

The IRM is anticipated to include:

- The excavation/removal of the former debris pile in the southern portion of the Site (this will include any necessary shoring and bracing and necessary erosion and sediment control measures required).
- In-situ application of reagent in the bottom of the excavation to treat chlorinated volatile organic compounds (CVOCs) in the groundwater.
- Removal of monitoring well MW-15 as part of the excavation activities in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy (NYSDEC, 2009).
- Backfilling of excavation with certified clean fill, compacting and grading to match surrounding grades.
- Site restoration, including installation of topsoil and seeding.
- Installation of a replacement monitoring well MW-15R directly beyond the limits of the excavation area. (Note: the cost for mobilization and installation of this replacement well is included in Task 2.)
- Post IRM implementation groundwater monitoring conducted by TRC (estimated two (2) rounds of groundwater sampling of six (6) monitoring wells (MW-07, MW-09, MW-10, MW-12, MW-13, and MW-15R and analysis for TCL VOCs).
- Preparation of an IRM Report, which will include:
 - Copies of waste bills of lading/manifests
 - Waste profiles
 - Daily logs
 - Sampling results
 - Progress photographs
 - Truck weigh tickets
 - Disposal facility receipts
 - Survey drawing

Task 4 – Remedial Investigation Report

The RI Report will present the results of the investigation and the IRM. The RI Report will be prepared in accordance with the applicable provisions of NYSDEC DER-10. The report will include, as applicable, the findings of the existing RI Report completed for the 1083 Route 32 Rosendale Site and will also include report text, tables, and figures which show the location of all RI sampling points. The report will describe the characteristics of the area investigated, including physical features, geology and hydrogeology, and include a summary of identified impacts along with recommendations for future actions, as appropriate. Groundwater surface elevation contour maps showing inferred predominant groundwater flow directions will be included in the RI Report.

TRC will generate a data usability summary report (DUSR). The DUSR will provide an evaluation of analytical data with the primary objective of determining whether or not the data, as presented, satisfies the project specific criteria for data quality and use.

Task 5: Detailed Analysis of Alternatives (Feasibility Study) and Remedy Selection

TRC will prepare a Feasibility Study (FS) Report in accordance with the applicable provisions of NYSDEC DER-10. The FS will take into account the findings of the RI and the IRM. The FS will establish remedial action objectives (RAOs), evaluate remedial options, and consider green remediation guidance as described in DER-31. Ultimately, the FS will identify remedial technologies that are technically implementable, cost effective, are expected to be capable of achieving the RAOs, and are protective of human health and the environment.

Task 6 – Public Meeting

TRC will be available to provide the Department and the NYSDOH with public meeting assistance under this task. This includes both meeting preparation and meeting attendance, as directed by the Department.

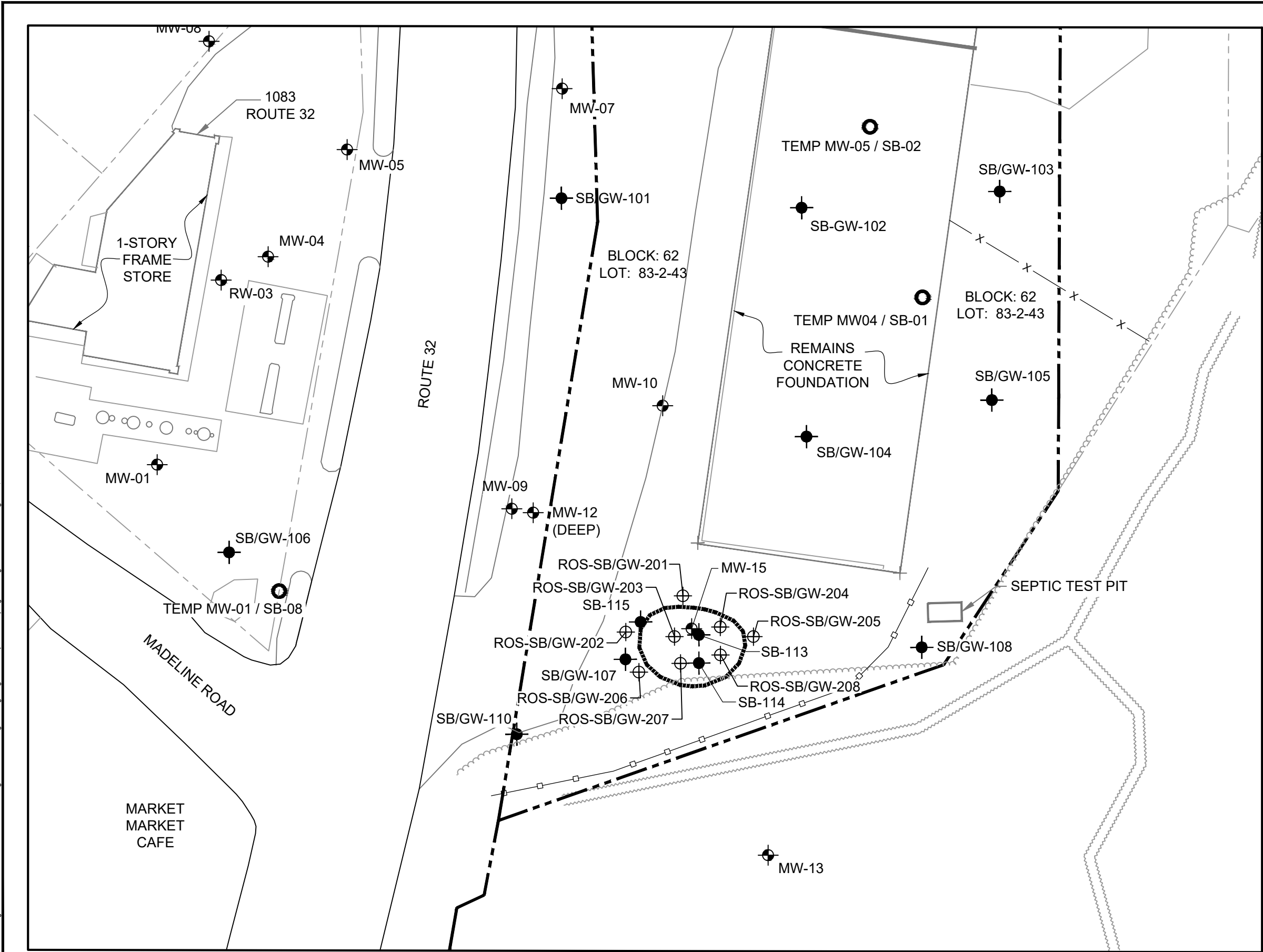
Project Schedule

Task No.	Task Description	Est. Time of Completion
1	Preliminary Activities • File Review (Completed) • Site Inspection (Completed) • Submit Schedule 2.11s and SOW	September 2017
2	Remedial Investigation Field Activities A. Site Preparation B. Direct Push Soil and Groundwater Sampling C. Monitoring Well Installation and Development D. Groundwater Sampling E. Site Survey	A. October 2017 B. 1 mo. after NTP C. 2 mo. after NTP* D. 3 mos. after NTP E. 3 mos. after NTP*
3	Interim Remedial Measure A. Procurement B. Implementation C. Groundwater Sampling	A. January 2018 B. March 2018 C. May 2018
4	Remedial Investigation Report	July 2018

Task No.	Task Description	Est. Time of Completion
5	Feasibility Study and Remedy Selection	September 2018
6	Public Meeting	October 2018

* Does not include replacement well MW-15R.

11x17 - ATTACHED XREFS: 11x17 Border: rosendale - ATTACHED IMAGES: Google Earth Image: Rosendale CTGO map.mxd
DRAWING NAME: I:\Projects\NYSDC\Assignments\WA #35 - Rosendale Cleaners\Figures\TRC Working Drawings\Figure 1 - Proposed Sampling Plan.dwg -- PLOT DATE: August 15, 2017 - 9:55AM -- LAYOUT: 11x17L



LEGEND (SYMBOLS NOT TO SCALE):

- BUILDING FOUNDATION (PARTIALLY DEMOLISHED)
- PROPERTY LOT BOUNDARY
- EXISTING GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- HISTORIC SOIL / GROUNDWATER SAMPLING LOCATION (NO PERMANENT WELL) AND IDENTIFICATION NUMBER
- HISTORIC DIRECT PUSH SOIL BORING AND "GRAB" GROUNDWATER SAMPLE LOCATION AND IDENTIFICATION NUMBER
- APPROXIMATE LIMITS OF BURIED DEBRIS MOUND (2014)
- TREE LINE / WOODED AREA (APPROXIMATE)
- DRAINAGE SWALE (APPROXIMATE)
- PROPOSED SOIL BORING AND GRAB GROUNDWATER SAMPLE LOCATION AND IDENTIFICATION NUMBER

NOTES:

- LOCATIONS AND DIMENSIONS OF OFF-SITE PHYSICAL FEATURES AND PROPERTY BOUNDARIES ARE APPROXIMATE.
- VERTICAL DATUM: NAVD 1988 (FEET)
- LOCATIONS OF PROPOSED MONITORING WELLS NOT SHOWN (TO BE DETERMINED).

0 30' 60'
SCALE: 1" = 30'
SHEET SIZE: 11" BY 17"

PROJECT: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION ROSENDALE CLEANERS SITE - SITE NO. 356050 TOWN OF ROSENDALE, NEW YORK	
TITLE: PROPOSED SAMPLING PLAN	
DRAWN BY: H. DELGADO	PROJ NO.: 278398.0000.0000
CHECKED BY: M. FLANAGAN	FIGURE 1
APPROVED BY: D. GLASS	
DATE: AUGUST 2017	
10 Maxwell Drive, Suite 200 Clifton Park, NY 12065 Phone: 518.348.1190 www.trcsolutions.com	
FILE NO.:	Figure 1 - Proposed Sampling Plan.dwg