

September 23, 2010
File No. 21.0056127.00

Mr. Frank Evangelisti
Acting Commissioner
Broome Co. Dept. of Planning and Economic Development
44 Hawley Street, 5th Floor
Binghamton, New York 13902



Re: Supplemental Off-Site Interim Remedial Measure Work Plan
ERP#B00168-7
312 Maple St., Endicott, NY

Dear Mr. Evangelisti:

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Buffalo
New York
14225
716-685-2300
FAX 716-685-3629
www.gza.net

GZA GeoEnvironmental of New York (GZA) has prepared this supplemental Off-Site Interim Remedial Measure (IRM) work plan at the request of the New York State Department of Environmental Conservation (NYSDEC) for remediation of existing soil impacted with trichloroethylene (TCE). This soil is located within property (off-Site) currently occupied by Norfolk Southern Railroad (NSR) adjacent to the 312 Maple Street facility in Endicott, New York (on-Site).

PURPOSE

This off-Site IRM work plan was prepared to address and remediate the existing soil previously identified as impacted with TCE located adjacent to the Site on the property occupied by NSR. These soils were unable to be remediated during previous on-Site IRM activities done in May 2006 due to access restrictions to the NSR property.

The previously completed on-Site IRM consisted of excavation and disposal of approximately 130 tons of soil impacted with TCE from the 312 Maple Street Site, although the excavation was limited to the on-Site and adjacent railroad property boundary line. During this work, the on-Site impacted soils were excavated and stockpiled on-Site prior to disposal at the Broome County Municipal Landfill.

Due to the close proximity of the NSR property to the previously completed IRM excavation area, some TCE impacted soil remains in the subsurface soil. The extent of remaining TCE impacted soils on the adjacent NSR property was identified during GZA's 2008 field activities to delineate and estimate its volume and concentration (see Remedial Investigation / Remedial Alternatives Report¹ (RI-RAR)).

The estimated volume of TCE impacted soil remaining in the adjacent NSR property that exceeds the Part 375 Unrestricted Use Soil Cleanup Objectives (SCO) (see attached Figure

¹ Remedial Investigation & Remedial Alternatives Report, 312 Maple Street, Endicott, New York, prepared for Broome County Department of Economic Development, prepared by GZA GeoEnvironmental of New York, Dated October 2009.

from RI/RAR) is estimated to be about 50 cubic yards (cy) or about 85 to 90 tons. This volume estimate assumes an approximate 350 square foot (sf) area and a thickness of about 4 feet. We have assumed that the soil remaining in this area has similar characteristics to those excavated during the May 2006 on-Site IRM and therefore, can be remediated and disposed of in a similar manner.

SCOPE OF SERVICES

Norfolk Southern Railroad Property Access

Coordination with NSR to arrange for access and excavation work on their property will be required prior to the start of remedial activities of impacted soils. GZA anticipates access to the NSR property will require obtaining required permits and/or special liability insurance (including railroad protection liability) which names NSR exclusively for this work. Issuance of the required insurance may require several weeks to procure. Scheduling efforts will also be required to determine the possible times of train traffic and/or the possibility of shutting down the northern most railroad track during remedial work. GZA anticipates that coordination will involve scheduling a NSR flagman to be on Site during all work done in the area. The flagman will be required to monitor all train traffic activity and will alert and clear equipment and workers from the work area during the passage of trains.

Waste Characterization

Prior to excavation, GZA will compile the previously tested soil sample analytical data from collected within the proposed IRM area, from the previous on-Site IRM activities and from the off-Site probe samples. This data will be made available to the Broome County landfill where the previously excavated on-site IRM soil material was disposed. GZA assumes and has budgeted that the waste soil will not be classified as a hazardous waste and will be allowed to be disposed of as a solid waste at the Broome County landfill similar to that done for the previous on-Site IRM.

Off-Site TCE Impacted Soil Removal

Excavation efforts of the off-Site IRM will be completed in the general area proximate to MW-1 located southeast of on-Site Building #2 (see attached Figure). Based on our soil delineation sample results from our work in 2008, it appears that excavations would not be required underneath the existing railroad ballast along the northern most track. We anticipate that the excavation shall extend to within about 3-feet of the northern most track stone ballast, with side walls closest to the railroad tracks sloped at about 1 Horizontal to 1 Vertical.

The impacted soils will be removed by standard excavation (excavator) methods. Additionally, due to the close proximity of the On-Site building, potential utilities, and railroad track and associated stone ballast, some hand digging may be required. Excavated soil will be screened by GZA with an organic vapor meter (OVM) equipped with a photoionization detector (PID) to assist in determining its characterization as clean soil, or impacted soil requiring off-Site disposal. GZA assumes soil requiring disposal will be

either directly loaded into trucks for transportation to a permitted landfill capable of receiving the impacted soil or will be temporarily stockpiled and secured on Site until approval for disposal by the Broome County landfill. Community air monitoring will be conducted during the IRM activities in accordance with Appendix 1A of the NYSDEC DER-10.

GZA will collect confirmatory soil samples prior to backfilling of the excavation to assess the concentrations of TCE remaining in the sidewalls (if any). GZA will collect, at a minimum, one confirmatory sample from each of the four sidewalls and bottom from the excavation. Confirmatory samples will be analyzed for Target Compound List (TCL) VOCs via EPA Method 8260.

After collection of confirmatory soils, the contractor will backfill the excavation area using clean, imported structural soils (e.g., crusher run, bank run stone, etc.) that meets the requirements of NSR. The soil will be placed in approximate 8-inch lifts and compacted with the excavator bucket and/or with walk behind compaction equipment until the existing grade is met.

PROJECT PREPARATION AND COORDINATION/MANAGEMENT

GZA assumes the approved health and safety plan (HASP) and Quality Assurance Plan (QAP) previously submitted for the on-Site RI/RAR and used for our previous on Site IRM event will be acceptable for the additional off-site work requested. Prior to the commencement of field activities, GZA will coordinate with NSR and our subcontractors (analytical laboratory, excavation contractor, etc.) to arrange for the required equipment and sample analysis; and obtain proper permits and insurance requirement to work on the railroad property. We will inquire about utility information for the excavation area within the railroad property and from the current Site property occupant who will be required to approve staging locations prior to the start of work.

GZA anticipates that this supplemental IRM work plan will be provided to NSR for approval prior to commencing work on their property.

ANALYTICAL PROGRAM

Analytical testing will be performed by Mitkem Corporation (Mitkem), a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory. Mitkem is currently contracted with GZA to perform the required soil and groundwater analytical testing for the 312 Maple Street project work. Confirmatory samples collected by GZA will be tested for VOCs via EPA Method 8260, specifically TCE, to verify that the impacted soils have adequately been remediated.

DATA ANALYSIS/REPORT PREPARATION

GZA will forward the confirmatory soil sample test data upon its receipt to a third party validation service that will generate a data usability summary report (DUSR). Upon receipt

of the DUSR, GZA will prepare the off-Site IRM report that summarizes the completed remedial work done in the off-Site railroad property for submission to NYSDEC.

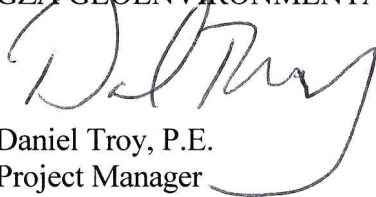
COST ESTIMATE


The estimated costs to complete the Off-Site IRM are based on the estimate presented in the RI/RAR. A copy of the anticipated costs from the RI/RAR is attached.

We look forward continuing our association with Broome County on this project. Please call if you should need any additional information or have any questions.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK


Daniel Troy, P.E.
Project Manager

 for
Ernest R. Hanna, P.E.
Principal

Attachments:

Figure – Proposed IRM Excavation Limits on Railroad Property
Table – Off-Site Soil Alternative #2 Cost Estimate from RI/RAR

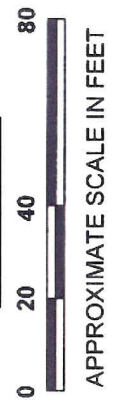
cc: Gary Priscott – NYSDEC



LEGEND:

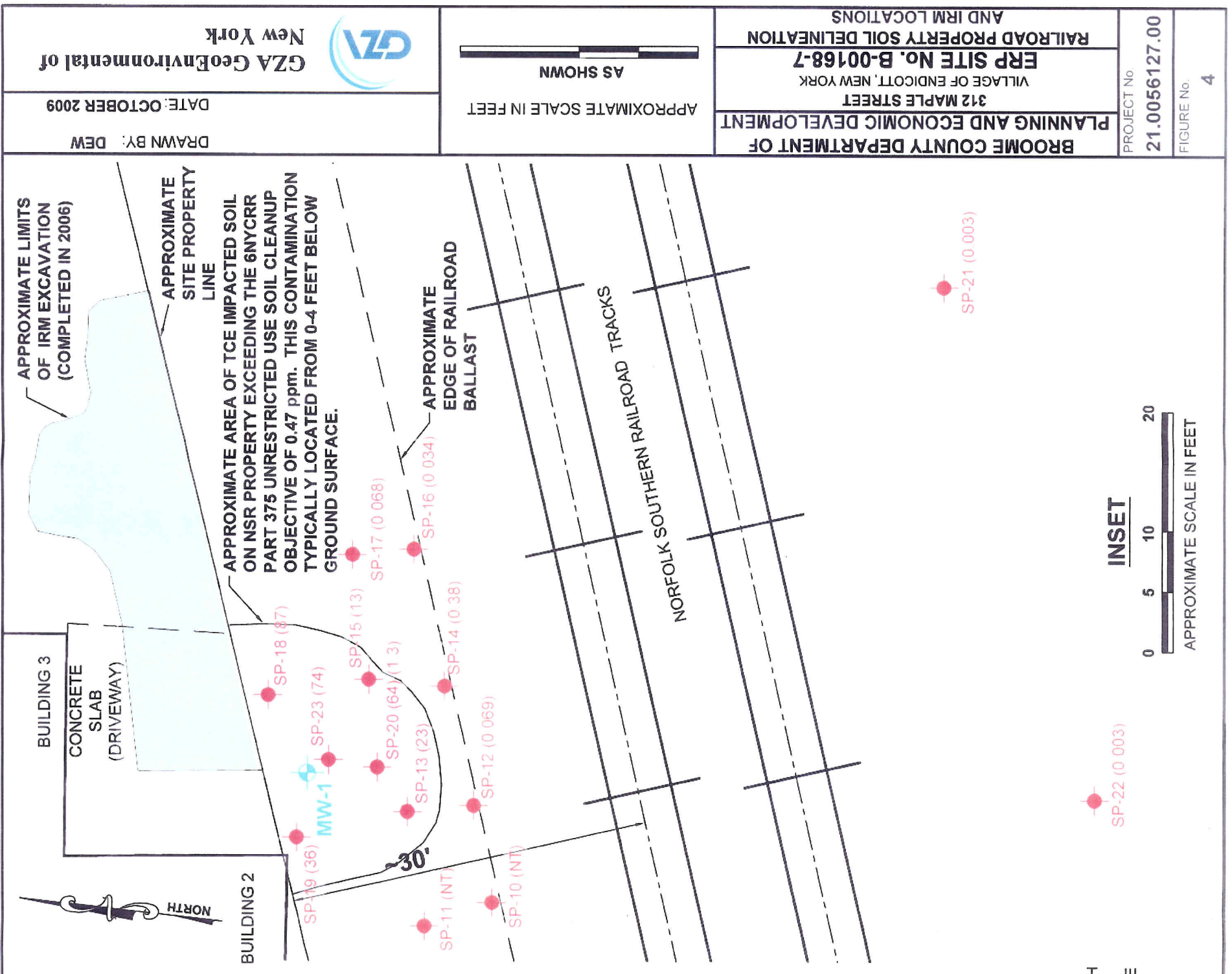
- **SP-11 (13)** APPROXIMATE LOCATION OF SOIL PROBE AND TCE CONCENTRATION IN ppm FROM SAMPLES COLLECTED FOR ANALYSIS (NT = NOT TESTED)
- **MW-1** APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELL
- **DRY WELL #1** APPROXIMATE LOCATION AND DESIGNATION OF DRYWELL CLOSURE

SITE PLAN

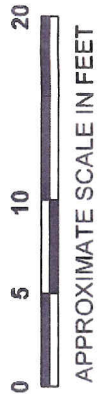


NOTES:

1. BASE MAP ADAPTED FROM A 2002 AERIAL PHOTOGRAPH DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html. A SURVEY PLAN PROVIDED BY THE CLIENT, AND FIELD OBSERVATIONS.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.



INSET



DATE: OCTOBER 2009
DRAWN BY: DEW
GZA Geoenvironmental of New York



APPROXIMATE SCALE IN FEET
AS SHOWN

BROOME COUNTY DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT
312 MAPLE STREET
VILLAGE OF ENDICOTT, NEW YORK
ERP SITE No. B-00168-7
RAILROAD PROPERTY SOIL DELINEATION AND IRM LOCATIONS

PROJECT No
21.0056127.00
FIGURE No.
4

Cost Estimate Assumptions
Off-Site Soil Alternative #2
Excavation and Disposal
Remedial Investigation / Remedial Alternative Report
312 Maple Street, Endicott, NY
Site No. B-00168-7

Off-Site Soil Alternative #2: Excavation and Disposal

The TCE concentrations in the fill material soils located on the adjacent railroad property (off-Site) are below the Part 375 Commercial and Industrial SCOs (which would likely apply for this type of land use). However, for purposes of this estimate, we have prepared costs to remediate these soils using the Part 375 Unrestricted Use SCO for TCE. GZA has made the following assumptions in generating costs associated with Off-Site Soil Alternative 2.

- Based on the subsurface soil delineation of the off-Site TCE impacted soils, GZA has estimated that an approximate 55 cubic yards of impacted soils (about 90 tons) will require remediation. The limits of the TCE impacted soils do not extend beneath the railroad tracks or below existing railroad stone ballast. The extent of the excavation is assumed to have dimensions of about 25 feet along the property line, 15 feet south of the property line and about 4 feet below ground surface (see Figure 11).
- Prior to excavation and removal, a right-of-way access agreement will be required from the Norfolk Southern Railroad which will require a railroad protective insurance policy. This coordination may take several months for processing.
- Excavation of the TCE impacted soils, backfilling and compaction can be completed in one day. The excavated soils would be stockpiled and secured on the 312 Maple Street Site until transportation and disposal can be arranged for the soils. The excavated soils are assumed to be a non-hazardous waste similar to on-Site IRM soils and could be disposed at a municipal solid waste permitted facility.
- Excavated soils will be screened with an organic vapor meter to determine the extent of TCE impacted soil. Confirmatory side wall samples will be collected and tested for VOCs to document the TCE impacted soils have successfully been remediated. Samples of the excavated soils will be collected for waste characteristic analysis as required by landfill disposal facilities.

Off-Site Soil Excavation and Disposal Cost Breakdown.

Work Plan Preparation:

= **\$5,000**

(engineering assumptions based on similar project experience)

Norfolk Southern Railroad access agreement application and railroad protective insurance policy.

= **\$25,000**

Includes coordination, processing, application fee, insurance policy and fee for railroad oversight (i.e., flagman).

(engineering assumptions based on previous RR access experience)

Cost Estimate Assumptions
 Off-Site Soil Alternative #2
 Excavation and Disposal
 Remedial Investigation / Remedial Alternative Report
 312 Maple Street, Endicott, NY
 Site No. B-00168-7

Off-Site Soil Excavation and Disposal Cost Breakdown (Cont'd)

Excavation of Off-Site Soils

Unit Rates (based on average 2006
IRM rates plus 5%)

Mob/Demob of excavator (one time)	\$1,500/day
Mob/Demob of front end loader (two times)	\$1,500/day
Operator and excavator/loader day rate (three days)	\$2,000/day
Decontamination pad / stockpile securing (lump sum)	\$800
Clean Backfill (assume 90 tons)	\$ 20/ton
Transportation and disposal of excavated soil (assume 90 tons)	\$ 75/ton

= (3 x \$1,500) + (3x \$2,000) + \$800 + (\$20 x 90) + (90 x \$75) = **\$19,850**

Engineering Oversight

2 days x 12 hr/day x \$65/hr field technician = \$1,560 (engineering assumption)
 includes travel time, excavation and loading for disposal
 Expenses (travel, shipping) and equipment (OVM)

= \$600 (engineering assumption)

Total Engineering Oversight = **\$2,160**

Analytical Testing Costs

Five confirmatory sidewall samples to be collected for VOC testing	\$150/sample
One composite waste characterization sample from soil stockpile (analysis to include TCLP full list and C/R/I)	\$ 1,000/sample

= (5 x \$150) + \$ 1,000 = **\$1,750**

Total excavation, backfill and disposal costs = **\$53,760**

Engineering Coordination and oversight

Project Management Assume 15% of total costs = **\$8,064**

Contingency Costs Assume 10% of total costs = **\$6,182**

Total Cost (including engineering oversight and contingency costs): \$68,006

Assume \$68,000