

# **Groundwater Monitoring Well/ Soil Gas Abandonment Report**

**Site Number: 231008  
Call Out ID: 126887  
1<sup>st</sup> Avenue and East 90<sup>th</sup> Street  
Manhattan, New York 10001**

**Report Date:**

**October 12, 2017**

**Prepared For:**

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Division of Environmental Remediation  
NYS Department of Environmental Conservation  
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**Prepared By:**

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***A Full Service Environmental Consulting  
and Contracting Firm***



The following personnel have prepared and/or reviewed this report for accuracy, content and quality of presentation:

**Groundwater Monitoring Well/ Soil Gas  
Abandonment Report**

**1<sup>st</sup> Avenue and 90<sup>th</sup> Street  
Manhattan, NY 10001**



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Jeffrey A. Bohlen  
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October 12, 2017  
Date

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## 1.0 Introduction

EnviroTrac Ltd. (EnviroTrac) was retained by the New York State Department of Environmental Conservation (NYSDEC) under Contract No. C100505 and Call-Out ID 127273 to conduct groundwater and soil gas/vapor monitoring well decommissioning at the area surrounding 1<sup>st</sup> Avenue and East 90<sup>th</sup> Street in the Upper East Side of Manhattan, New York, herein referred to as the Site (Site No: 231008). A United States Geological Survey (USGS) topographic map of the area is included as **Figure 1** and an aerial photograph is presented as **Figure 2**. Photographic documentation of Site decommissioning activities are included in **Appendix B**. This decommissioning work was conducted pursuant to the NYSDEC Standby Contractor Work Authorization (Call Out) Form received by EnviroTrac on November 25, 2016, which was a continuation of work under Contract No. C100902, Call-Out 126887 which is included in **Appendix A**.

Under the direction of the NYSDEC, EnviroTrac was instructed to decommission a number of the groundwater monitoring and soil gas/vapor monitoring wells at and around the Site. The monitoring wells that were to be decommissioned were identified during a Site walk through with the New York State Department of Environmental Conservation (NYSDEC) case manager, Dave Harrington. The scope of work, as outlined in the call out, was to abandon a total of approximately thirty (30) monitoring wells previously installed in July 2014 as per CP-43: *Groundwater Monitoring Well Decommissioning Policy*. During the walk through, however, a total of 45 groundwater monitoring wells and seventy-two (72) soil gas/vapor monitoring wells were identified for abandonment. The Call-Out also specified for EnviroTrac to prepare a report summarizing the decommissioning activities, which is presented herein.

## 2.0 Site Background

The Site is located in the Upper East Side of Manhattan (**Figure 2**). It is approximately centered on a 22-story apartment building located at the southeast corner of the intersection of 1<sup>st</sup> Avenue and East 90<sup>th</sup> Street.

Chlorinated compounds were detected in the groundwater samples collected in the spring of 2002 in the vicinity of a Mobil station that was previously closed in 1998. Dry cleaning facilities in the area were investigated as potential sources of the chlorinated compounds present in the groundwater samples. Tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (DCE) at concentrations in exceedance of their respective Title 6 New York Codes, Rules and Regulations (6 NYCRR) Part 703.5, Class GA standards. The potential source area was estimated to be located up-gradient of the apartment building property.

The depth of groundwater is approximately 12 feet below grade (fbg). Due to the depth of groundwater, there was a potential for vapor encroachment.

The NYSDEC assigned URS to conduct investigative work in 2002 and 2003. A Phase I (Immediate Investigation Work Assignment), Soil-Gas Conduit Installation and Sampling, and subsequent field work were completed in November 2003. A Field Investigation Report was issued by URS in January, 2004 detailing this work. A Phase II Site Characterization, which included soil-gas conduit installation and sampling, monitoring well installation and groundwater sampling, was conducted in 2005 by URS.

A Phase III Site Characterization, which included monitoring well installation and groundwater sampling, were performed completed in June 2005. Additional monitoring well installation and groundwater sampling were performed in May, 2006, August, 2006, January, 2007 and October, 2008.

In accordance with Call-Out ID 118556, EnviroTrac was directed to install a total of twelve (12) groundwater monitoring wells at the Site (MW-47 through 51, MW-51A, MW-52 through MW-57, MW-57 A, and MW-58 and MW-59). Installation took place during the period of September 28 through October 26, 2009.

Additionally, during the period of October 14 through 26, 2009, a total of 25 permanent soil gas conduits (VP-100 through VP-124) were installed at the Site to depths between two (2) to eight (8) feet bgs.

EnviroTrac, under Call-Out ID 123948, was assigned to the Site to conduct low-flow groundwater sampling, gauging activities, well maintenance, and select well abandonment from July through August, 2015.

Call-Out ID 126887 was then issued to EnviroTrac on August 22, 2016 for the installation of six (6) additional permanent soil vapor points using a limited access rig. EnviroTrac was asked to collect soil vapor samples at the newly installed soil vapor point locations, and collect additional soil vapor point samples from existing locations selected by the NYSDEC, as well as restore the sidewalk flags determined by the NYSDEC. A summary of this work was presented in a Soil Vapor Investigation Report dated December 14, 2016.

Lastly, Call-Out ID 127273 was issued to EnviroTrac on November 25, 2016 as a continuation of work originally included under Contract No. C100902, Call-Out 126887. This work includes monitoring well decommissioning and sidewalk restoration at locations to be determined by the NYSDEC case manager. In addition to the field work, EnviroTrac was asked to prepare a report detailing the decommissioning process at the proposed locations.

### **3.0 Groundwater and Soil Gas Monitoring Well Abandonment**

In accordance with CP-43: *Groundwater Monitoring Well Decommissioning Policy*, environmental monitoring wells are to be decommissioned if they are no longer needed and re-use by another program is not an option. Under the direction of the NYSDEC case manager Mr. David Harrington, Senior Environmental Engineer, and after a site walkthrough with EnviroTrac on August 9, 2017, a total of thirty-five (35), groundwater monitoring wells and seventy-two (72) soil gas/vapor points were identified for decommissioning at the Site. In addition, it was determined that MW-57A, 59 and 68 had been destroyed during construction of a new subway. Soil gas point SG-35 was also destroyed during subway construction. Prior to decommissioning activities, New York City Department of Transportation (NYCDOT) sidewalk occupancy and replacement permits were obtained for each of the streets on which work was to take place and one-

call 811 utility mark outs were called in for those streets as well prior to any ground disturbance activities.

Decommissioning work began on August 28, 2017 and ended on September 11, 2017. Sidewalk flags that were cracked or damaged, posed a health and safety concern, and contained a groundwater monitoring well or soil gas/vapor point, were identified, removed and replaced. No groundwater monitoring wells were intentionally left in service. However, several of the soil gas/vapor wells were located in active construction areas and were not accessible. These soil gas/vapor wells were identified as: SG-37, SG-38, SG-39, SG-40, VP-113 through VP-115 and SG-88. A total of 8 sidewalk flags were identified for removal and replacement. All other well locations were abandoned in place as per the direction of the NYSDEC case manager. Twenty-four (24) soil gas/vapor monitoring wells were left in place for future sampling and were not abandoned. Then soil gas/vapor monitoring wells left in service were:

- SG-19, SG-49, SG-75, SG-76, SG-77, SG-78, SG-45, SG-42, VP-125, SG-79, SG-80, VP-127, VP-128, SG-82, SG-83, SG-84, SG-85, SG-86, SG-87, SG-89, SG-90, SG-91, SG-92 and SG-48.

The total depths of the decommissioned groundwater monitoring wells ranged from approximately 18 feet to approximately 25 feet below the top of casings. Soil gas points ranged from 2 ft bg to 8 ft bg. Original well construction details were not available.

The following groundwater monitoring wells were abandoned:

- MW-3, MW-5, MW-6, MW- 22, MW-23, MW-24, MW-25, MW-26, MW-20, MW-56, MW-34, MW-39, MW-21, MW-43, MW-35, MW-36, MW-42, MW-11, MW-12, MW-41, MW-13, MW-14, MW-15, MW-40, MW-46, MW-17, MW-38, MW-18, MW-33, MW-37, MW-16, MW-49, MW-47, MW-48, MW-31, MW-19, MW-32, MW-54, MW-53, MW-50, MW-51, MW-51A, MW-52 and UK-3.

The groundwater monitoring and soil gas vapor points were located on the several streets surrounding 1<sup>st</sup> Avenue and East 90<sup>th</sup> Streets. Photographic documentation of

well abandonment activities is presented in **Appendix B**. In accordance with CP-43, the method for decommissioning was determined based upon the well construction and environmental parameters.

Monitoring wells were decommissioned with the use of a “tremie” pipe (tremie). The tremie is a tube that extends from the grout supply, which was mixed in a 55 gallon steel drum, to the bottom of the well. The tremie pipe and pump delivers grout to the bottom of the well and is slowly withdrawn as the monitoring well fills with grout. The monitoring wells were filled to approximately five (5) feet below grade. The remainder of the monitoring well was then filled with concrete to just below the manhole lid which was re-secured with bolts. In circumstances where sidewalk flags were cracked or damaged, the flag was removed and replaced. Three sidewalk flags on York Avenue surrounding SG-31 and one (1) sidewalk flag containing SG-30 were replaced. Three sidewalk flags on East 89<sup>th</sup> Street surrounding SG-47 and one sidewalk flag containing SG-43 were replaced.

Several groundwater and soil gas points were located in active construction zones and were either destroyed due to the construction activity, or inaccessible at the time of decommissioning. Soil gas wells VP-113- 115 and SG-88 were located in a construction zone and were not accessible. Soil gas wells SG-14, 16-17, 27, 29, 35-40, 44 and VP-106-109 were destroyed. Groundwater monitoring wells MW-57A, 68 and 59 were also destroyed. Additionally, the cover to MW-23 was replaced due to damage.

#### **4.0 Summary**

EnviroTrac was instructed to decommission a number of the groundwater monitoring and soil gas/vapor monitoring wells at and around the Site. A total of thirty-five (35) groundwater monitoring wells and seventy-two (72) soil gas/vapor monitoring wells were identified for abandonment. All groundwater monitoring wells were abandoned. The monitoring wells were decommissioned in accordance with CP-43: *Groundwater Monitoring Well Decommissioning Policy* and were completed between August 28 and September 11, 2017. A total of eight (8) sidewalk flags were also removed and replaced.



It is recommended that the soil gas/vapor wells which were inaccessible during the decommissioning activities in 2017 be re-visited and abandoned when construction in the area is completed, assuming they were not destroyed during the construction of the subway.

# TOPOGRAPHIC MAP



**Figure 1**  
**Site Location Map**

1st Avenue &  
East 90th Street  
New York, NY

USGS Quadrangle:  
Central Park

Approx. Elevation:  
31 feet



**EnviroTrac**  
Environmental Services

5 Old Dock Road  
Yaphank, NY 11980

P: 631-924-3001 F: 631-924-5001





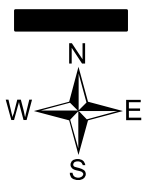
# AERIAL PHOTOGRAPH



**Figure 2**  
**Aerial Photograph**

1st Avenue &  
East 90th Street,  
New York, NY

0 100ft.



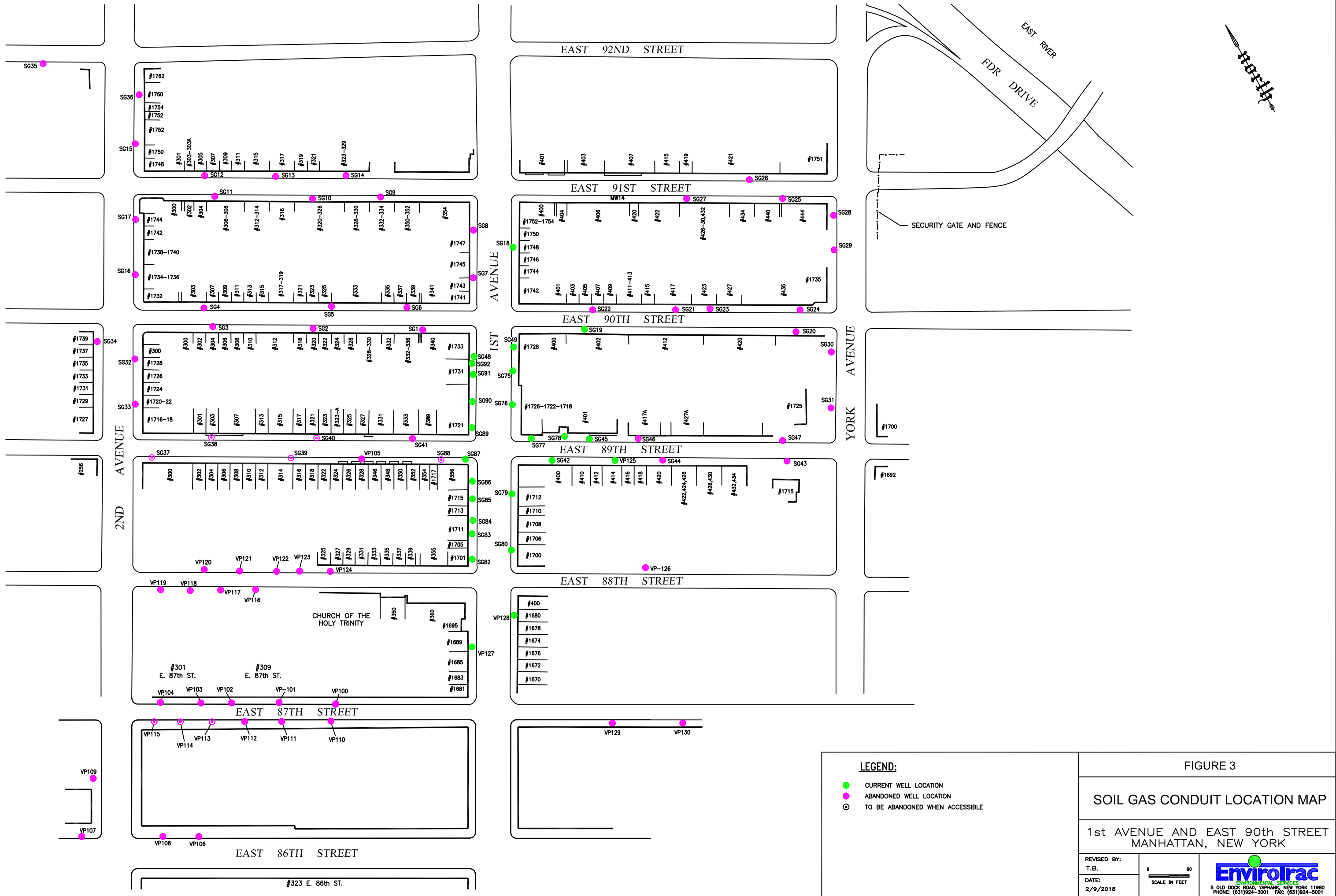
**Envirotrac**

Environmental Services

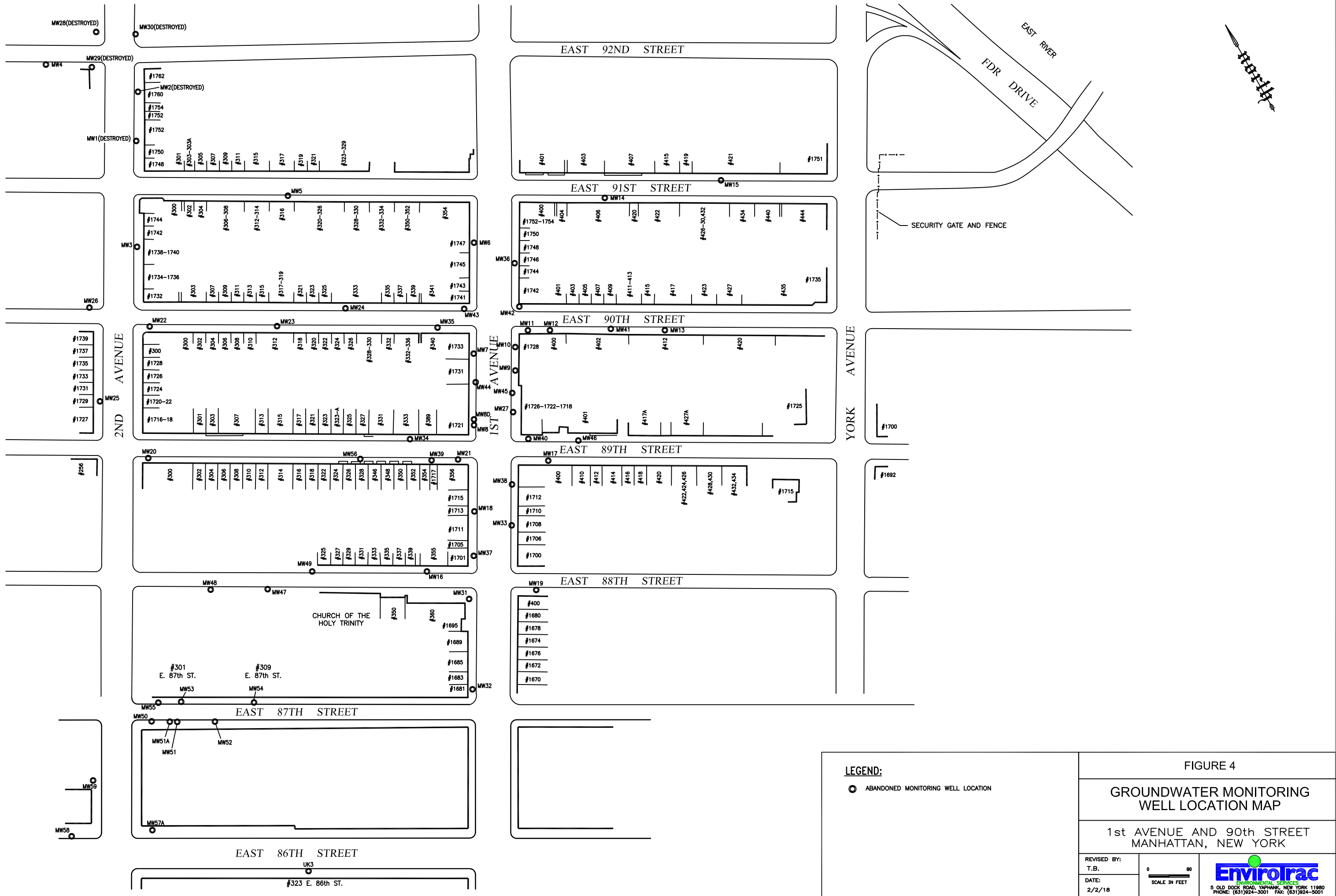
5 Old Dock Road  
Yaphank, NY 11980

P: 631-924-3001 F: 631-924-5001











NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF ENVIRONMENTAL REMEDIATION

**STANDBY CONTRACTOR AUTHORIZATION FORM**  
**For Response & Containment, Investigation & Remediation**  
**and Laboratory Services Contractors**

**General Information**

**Region:** 2      **Site No.:** 231008      **CallOut ID:** 127273

**CallOut** 11/25/2016

**Contract No.:** C100605      **PIN (if applicable):**

**Contractor Selected:** ENVIROTRAC LTD (REM)

**Site Information - Name:** 1st Avenue and East 90th Street      **County:** New York

**Address:** 1st Avenue and East 90th Street, New York

**SCOPE OF WORK** (Provide brief detailed description):

November 25, 2016:

This is a continuation of work originally included under Contract No. C100902, Call-Out 126887. Under this continuation, the work scope includes completion of the SVI investigation initiated in September 2016 as noted below.

- report preparation (includes text, tables, figures, logs, photos, etc.)
- sidewalk restoration at locations to be determined by DEC PM

Previous approved budget: \$41,750 (under Call-Out 126887)

Previous spent budget: \$ 27,705.35 (under Call-Out 126887)

Maximum new budget under new call-out: \$14,044.65

**ESTIMATED BUDGET:** \$ 14,044.65

This serves as authorization to incur costs up to the budgeted amount indicated, to perform the scope of work outlined above in connection with the above-referenced spill/site call out number. The contractor is responsible for immediately notifying the DER project manager if it becomes apparent that the scope of work can not be completed within the budget and/or the scope of work should be amended. The contractor should not incur costs that exceed the budget or perform activities outside the scope of work without the verbal or written approval of the DER project manager. The DER project manager must confirm that approval in writing in an amended Standby Contractor Authorization Form signed by the DER project manager and Rep within two business days.

**DER Project Manager Name/Title:**

DAVE HARRINGTON, EE2  
(Print)

*Dave Harrington*  
(Signature)

Date: 11/25/16

**Authorized DER Representative Name/Title:**

James Moras, FE3  
(Print)

*James C. Moras*  
(Signature)

Date: 11/28/16

**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 1:** Typical Soil gas monitoring well location prior to abandonment.



**Photograph 2:** Soil gas monitoring well (SG-32) location prior to abandonment.



**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 3:** Grout mixing for groundwater monitoring well abandonments.



**Photograph 4:** Decommissioning of groundwater monitoring well.



**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 5:** “Tremie” pipe used to decommission monitoring wells.



**Photograph 6:** Abandonment of groundwater monitoring well.

**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 7:** View of groundwater monitoring well abandonment in place.



**Photograph 8:** Soil gas point abandoned in place with cover.



**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning  
1<sup>st</sup> Avenue and East 90<sup>th</sup> Street  
Manhattan, New York 11358*

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**Photograph 9:** Sidewalk flag replacements.



**Photograph 10:** Sidewalk flag replacements.

**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 11:** Sidewalk flag replacements.



**Photograph 12:** Finished sidewalk flag replacements.



**Photograph Documentation August 28 through September 11, 2017**

*Groundwater and Soil Gas/Vapor Monitoring Well Decommissioning*

*1<sup>st</sup> Avenue and East 90<sup>th</sup> Street*

*Manhattan, New York 11358*

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**Photograph 13:** Finished sidewalk flag replacement.