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# FACT SHEET

## EXPLANATION OF SIGNIFICANT DIFFERENCES

### KLIEGMAN BROTHERS SITE

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Glendale, NY / Queens County / Registry No. 241031 / April 2013

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Prepared by the New York State Department of Environmental Conservation  
Division of Environmental Remediation

## INTRODUCTION

The purpose of this notice is to describe the progress of the cleanup at the Kliegman Brothers Site and to inform you about a change in the site remedy for Operable Unit Number 2 (OU2) – off-site shallow groundwater. The Kliegman Brothers Site is located at 76-01 77th Avenue in Queens County, New York (**Figure 1**), and has been divided into two operable units, OU1 (on-site soil and perched groundwater) and OU2 (off-site shallow groundwater) for investigation and remediation purposes by the New York State Department of Environmental Conservation (the “Department”). OU1 is currently being remediated by the Department using a Soil Vapor Extraction (SVE) System. This system was initially constructed as an interim remedial measure (IRM) by the Department in 2004 and expanded to a larger system by the Department in 2007. OU2 focuses on off-site shallow groundwater contaminated by tetrachloroethene (PCE) which has migrated from the site. Remediation of PCE in off-site groundwater is the focus of the Explanation of Significant Differences (ESD) and is described in more detail below.

In March 2008, the Department signed a Record of Decision (ROD) for OU2. The main elements of the selected remedy included in-situ chemical treatment of contaminated off-site shallow groundwater within the concentrated plume area along with continued soil vapor monitoring. The state funded Remedial Design (RD) was completed in November 2012 and included further investigations of off-site groundwater contaminant concentrations. The data generated and evaluated during the RD identified the need for the ESD, and justified changes in the remedy approach. The latest groundwater sampling results confirm that the OU2 plume has attenuated as a result of the remediation activities associated with OU1.

The purpose of the ESD is to describe how the remedial approach originally presented in the OU2 ROD has been modified to address the remaining contaminant concentrations within and in close proximity to monitoring well MW-14DR, located along 76th Street. The ESD has become part of the Administrative Record for this site.

## DESCRIPTION OF SIGNIFICANT DIFFERENCES

March 2008 ROD Remedy - The Department selected subsurface chemical injection and treatment within the most contaminated area of groundwater, defined as an area approximately 1.5 acres in size downgradient of the site along with continued soil vapor monitoring, and installation of residential vapor mitigation systems as required.

PCE in the groundwater was to be removed by sequential chemical injections using two chemicals. The first chemical, known as “Fenton’s Reagent” would be injected in multiple rounds. This was to be followed by multiple injections of the second chemical known as “potassium or sodium permanganate.” Post-injection groundwater monitoring would evaluate the progress of remediation.

In order to increase the area reached by the injected chemicals to areas beyond the radius of influence of the injection wells, the ROD included the installation and operation of a groundwater extraction well and groundwater treatment facility. The feasibility of this option was to be examined during the RD.

*April 2013 Explanation of Significant Difference Remedy* – Similar to the March 2008 ROD remedy this remedy includes subsurface chemical injection and treatment along with continued soil vapor monitoring, and installation of residential vapor mitigation systems as required. Post-injection groundwater monitoring will evaluate the progress of remediation.

However, due to the significant reduction in PCE concentrations within the shallow groundwater zone and a smaller defined treatment area, the use of “Fenton’s Reagent” will not be necessary. In addition, a two-phased approach is no longer required. Therefore, this remedy only requires multiple “potassium or sodium permanganate” injections at 12 locations, over approximately 0.3 acres, instead of the 60 locations originally required by the OU2 ROD (**Figure 2**).

Moreover, the need for the extraction well and treatment facility have also been eliminated from this remedy. This determination is supported by the groundwater data collected since the ROD was released that indicates that the plume has shrunk in size and the extent of contamination requiring treatment is much smaller than originally determined in the ROD. Further, a soil vapor intrusion monitoring program has been implemented since release of the March 2008 ROD, the results of which have reduced concerns over potential migration of contamination under the residences and subsequent exposure by vapor intrusion.

The remedy, as modified by this ESD, is protective of human health and the environment and meets the goals originally included in the March 2008 ROD. The NYSDOH concurs with the modified remedy.

## **SCHEDULE AND MORE INFORMATION**

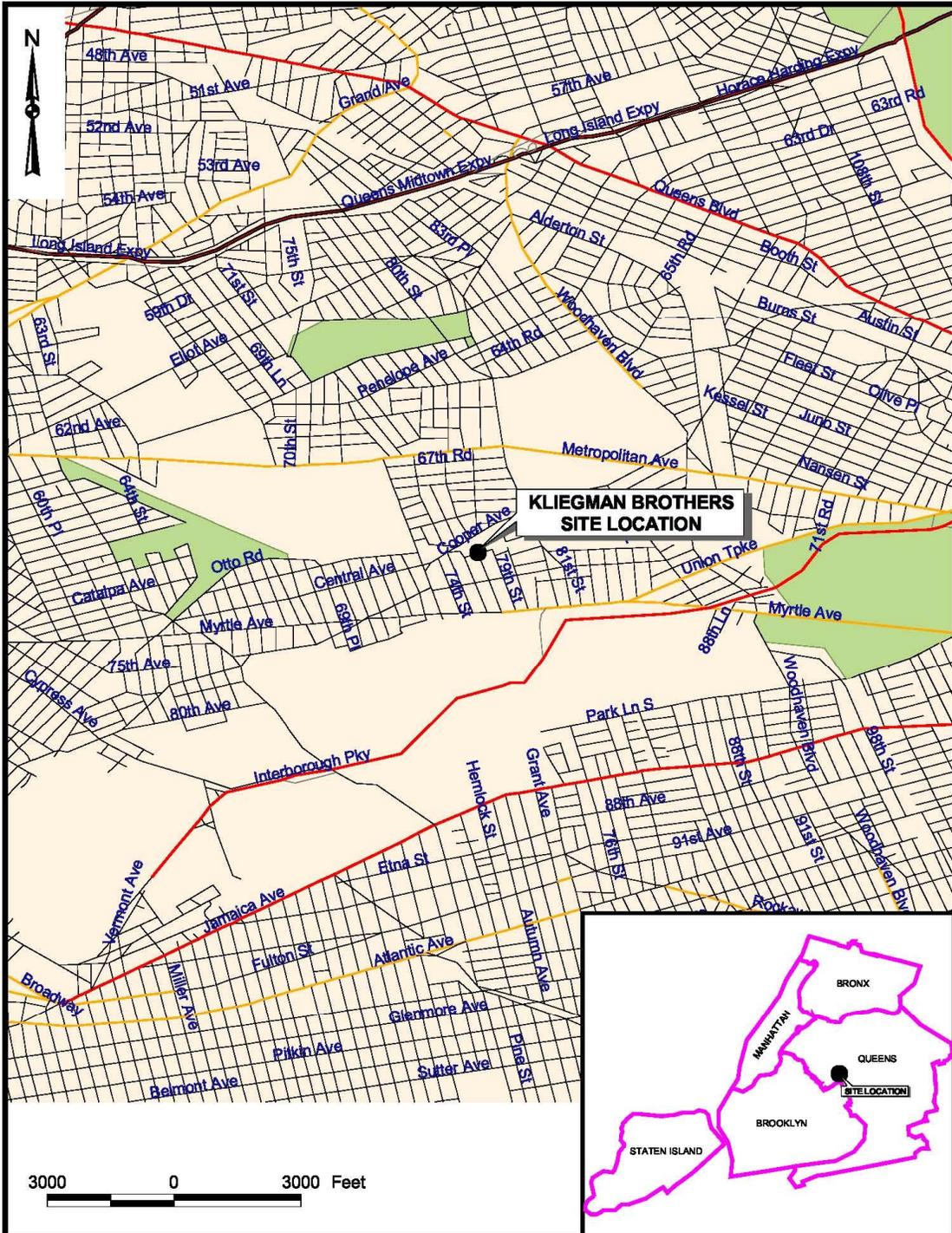
Remedial design investigations of the groundwater were completed by the Department in the Fall 2012. Design of the cleanup remedy was completed in December 2012. Injection well drilling activities are anticipated to be initiated in May 2013 and completed during the Summer 2013. Following injection well installation, it is the intention of the Department to complete groundwater injections by early 2014. Groundwater monitoring activities will continue uninterrupted during this period and continue for an indefinite time period thereafter.

The information here is a summary of what can be found in greater detail in documents that have been placed in the following repository:

**Queensboro Public Library**  
**Glendale Branch**  
78-60 73rd Place  
Glendale, NY 11385  
Phone: (718) 821-4980  
[www.queenslibrary.org](http://www.queenslibrary.org)

Although this is not a request for comments, interested persons are invited to contact the NYSDEC’s Project Manager (listed below) for this site to obtain more information or have questions answered.

<p><b>➤ For Technical Questions About the ESD, Contact:</b> NYSDEC Central Office Attn: David Chiusano 625 Broadway, 12<sup>th</sup> Floor Albany, New York 12233-7017 (518) 402-9814 E-Mail: <a href="mailto:djchiusa@gw.dec.state.ny.us">djchiusa@gw.dec.state.ny.us</a></p>	<p><b>➤ For Site-Related Health Questions, Contact:</b> Stephanie Selmer, Bureau of Environmental Exposure Investigation NYSDOH Telephone: (518) 402-7860 E-Mail: <a href="mailto:BEEI@health.state.ny.us">BEEI@health.state.ny.us</a></p>
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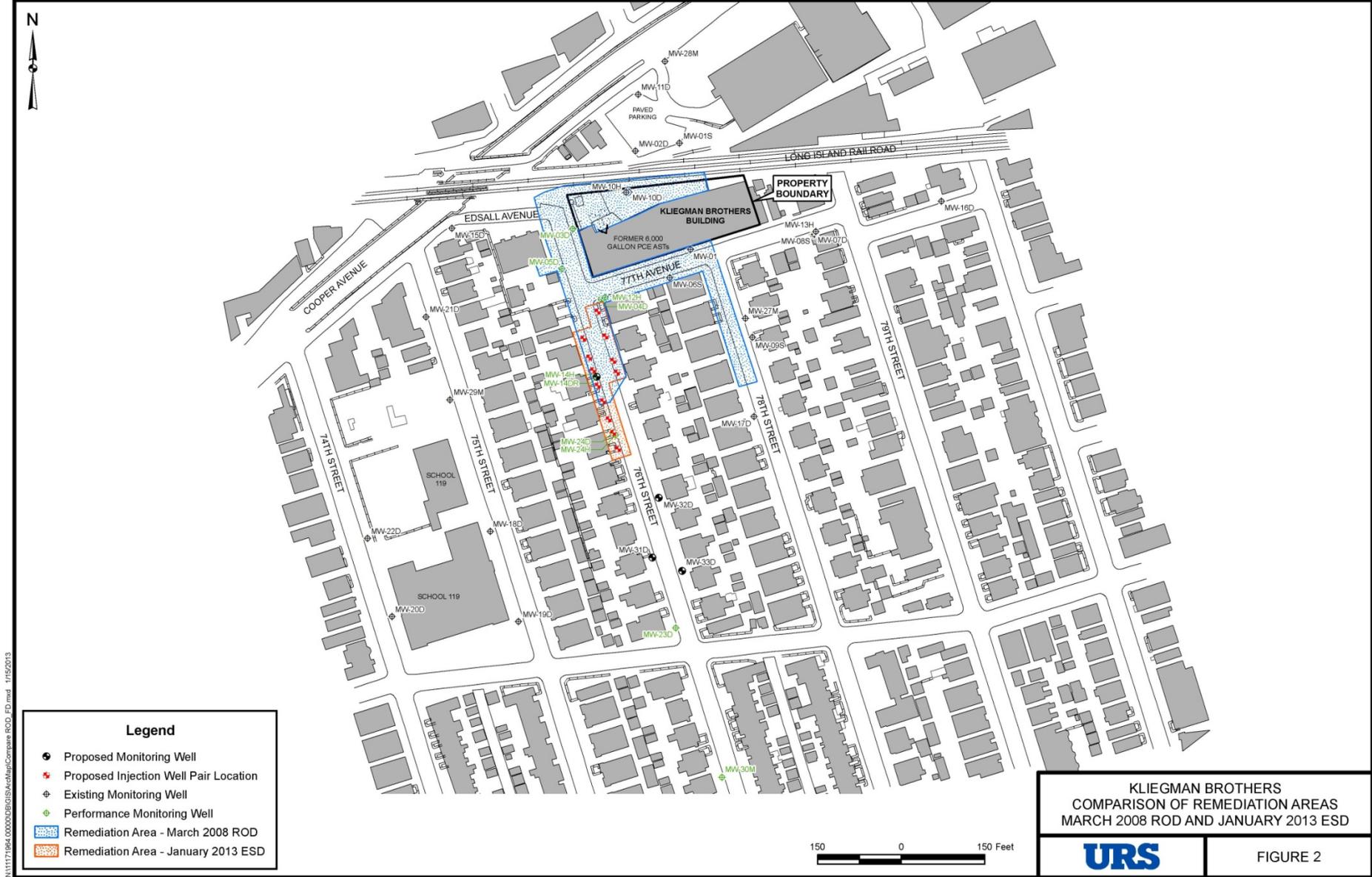


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 04/17/2005

**URS**

**KIEGMAN BROTHERS  
SITE LOCATION MAP**

**FIGURE 1**



**Legend**

- Proposed Monitoring Well
- ✱ Proposed Injection Well Pair Location
- ⊕ Existing Monitoring Well
- ⊕ Performance Monitoring Well
- ▨ Remediation Area - March 2008 ROD
- ▨ Remediation Area - January 2013 ESD

**KLIEGMAN BROTHERS  
COMPARISON OF REMEDIATION AREAS  
MARCH 2008 ROD AND JANUARY 2013 ESD**

**URS** FIGURE 2

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