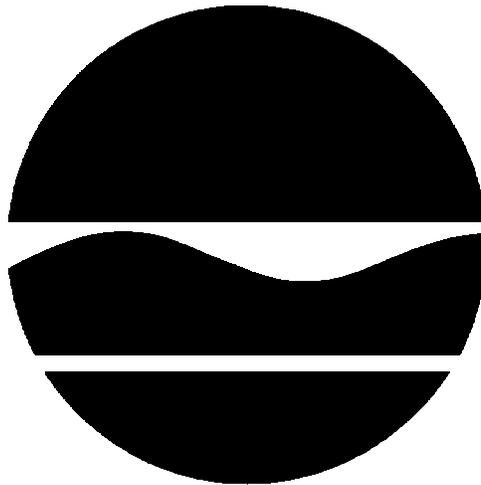


PROPOSED REMEDIAL ACTION PLAN
314 Clinton Street Site
Environmental Restoration Project
City of Schenectady, Schenectady County, New York
Site No. E447036

February 2007



Prepared by:

Division of Environmental Remediation
New York State Department of Environmental Conservation

A 1996 Clean Water/Clean Air Bond Act **Environmental Restoration Project** **PROPOSED REMEDIAL ACTION PLAN**

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City of Schenectady, Schenectady County, New York
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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the 314 Clinton Street Site.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

As more fully described in Sections 3 and 5 of this document, poor housekeeping and inventory management at various commercial establishments resulted in the disposal of hazardous substances, including petroleum products and solvents. These hazardous substances contaminated the soil and groundwater at the site.

Based on the findings of the investigation of this site which indicate that the past disposal of hazardous waste at the site does not pose a significant threat to human health or the environment No Action, with an environmental easement to address potential vapor intrusion issues, is proposed as the remedy for this site. This Proposed Remedial Action Plan (PRAP) identifies the preferred remedy and discusses the reasons for this preference. The Department will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

The Department has issued this PRAP as a component of the Citizen Participation Plan developed pursuant to the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in greater detail in the January 2007 "Remedial Investigation Report" and other relevant documents. The public is encouraged to review the project documents, which are available at the following repositories:

Schenectady County Public Library
Reference Desk
99 Clinton Street
Schenectady, NY 12305-2083
Hours: M-Th 9:00 a.m. - 9:00 p.m., F-Sa 9:00 a.m. - 5:00 p.m., Su 1:00 p.m. - 5:00 p.m.
Phone: (518) 388-4511

NYSDEC Region 4 Office
1130 North Westcott Road
Schenectady, NY 12306
Hours: Monday - Friday 8:30 a.m. - 4:00 p.m.
Appointment requested; contact Allan Geisendorfer at (518) 357-2390

NYSDEC Central Office
625 Broadway, 12th Floor
Albany, NY 12233-7013
Hours: Monday - Friday 8:30 a.m. - 4:30 p.m.
Appointment requested; contact Ian Beilby, Project Manager, at (518) 402-9818

The Department seeks input from the community on all PRAPs. A public comment period has been set from February 5, 2007 through March 22, 2007 to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for February 27, 2007 Schenectady Metroplex Development Authority Meeting Room, Center City Plaza, 433 State Street, Schenectady, beginning at 7:00 p.m.

At the meeting, the results of the SI will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP. Written comments may also be sent to Mr. Beilby at the above address through March 25, 2007.

The Department may modify the proposed remedy or select another based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here.

Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

SECTION 2: SITE LOCATION AND DESCRIPTION

The 314 Clinton Street Site is a 2.4 acre parcel bounded by Broadway, Hamilton Street, and Clinton Street (Figure 1) in the City of Schenectady, Schenectady County. The site consists primarily of a parking lot with a small amount of greenspace. The site is adjacent to several businesses, office buildings, and residential structures.

The underlying native soil at the site is primarily a mixture of fine to course sand and silt generally found between four and eighty feet below the ground surface. The top four feet consist of historic fill material comprised of varying amounts of dirt, gravel, brick, asphalt, and concrete.

Groundwater was encountered between four and twelve feet below the ground surface.

The site of a former manufactured gas plant exists one block to the southwest and downgradient of the 314 Clinton Street Site. The 312 Broadway site, another environmental restoration site, is located on the opposite side of Hamilton Street and Broadway.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The historical activity at the site includes a variety of residential and commercial uses. The commercial uses of interest included a former gasoline filling station and a former dry cleaner. The approximate location of each of these activities is indicated on Figure 3, "Test Boring/Monitoring Well Locations Map - 314 Clinton Site."

As the site of a gasoline filling station, the presence of underground storage tanks was suspected; a common avenue for petroleum contamination of soil and groundwater. No tanks were discovered though results of the investigation indicate a small portion of the site to be impacted by petroleum compounds in the area of the former filling station.

Contamination was also suspected in the location of the former dry cleaner which operated for an unknown duration around 1950. During the investigation, tetrachloroethene, a chemical commonly used in the dry

cleaning industry, was detected at very low concentrations in isolated portions of the site in the soil and groundwater.

3.2: Remedial History

A consultant for the City of Schenectady performed a subsurface investigation between 2004 and 2006. This investigation was performed using ground penetrating radar to locate underground storage tanks and multiple drilling technologies to collect groundwater and soil samples across the site. No tanks were found using these methods and there are no available records that indicate when the filling station tanks were removed. It is assumed they were removed between 1951 and 1988, the approximate period when the Clinton Street Site was converted to a paved parking lot. The same is true in the location of the former dry cleaner. Any storage tanks that may have existed at the site were likely removed at that same time.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, and haulers.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. The City of Schenectady will assist the state in its efforts by providing all information to the state which identifies PRPs. The City of Schenectady will also not enter into any agreement regarding response costs without the approval of the Department.

SECTION 5: SITE CONTAMINATION

The City of Schenectady has recently completed a site investigation (SI) report to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between April of 2006 and June of 2006. The field activities and findings of the investigation are described in the SI report.

Soil and groundwater samples were collected to perform laboratory analysis for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides and inorganics (metals) to determine the presence and extent of contamination around the areas assumed to be impacted by historical uses and to detect a broad range of contaminants from previously unknown sources.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the soil and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

1. Groundwater, drinking water, and surface water SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.
2. Soil SCGs are based on Title 6 of the New York Code of Rules and Regulations [6NYCRR] Part 375 Restricted Use Soil Cleanup Objectives [SCOs] for Commercial Use, Table 375-6.8(b).

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, no media or areas of the site required remediation. More complete information can be found in the SI report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the SI report, soil and groundwater samples were collected to characterize the nature and extent of contamination. As seen in Table 1 and Figures 4 through 8, the main categories of contaminants that exceed their SCGs are SVOCs and metals. For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per million (ppm) for soil and parts per billion (ppb) for water. Figures 4 through 8 and Table 1 summarize the degree of contamination for the contaminants of concern in the soil and groundwater and compare the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

Surface soil samples were collected in areas where no asphalt was present; generally from planting islands in the parking lot and other small areas of greenspace. These samples were collected to ensure the entire site was investigated and to obtain representative samples from the soil that is most likely to come into contact with humans. No contaminants were detected above SCGs for commercial use.

Near Surface Soil

Soil samples collected immediately below the asphalt pavement and subbase material were designated near surface soil samples. These samples were collected to obtain representative samples from the uppermost horizon of native and/or historic fill material. Samples were collected in a nearly uniform distribution across the site. Two contaminants were detected at concentrations marginally above the Commercial Use SCOs in SS-10; Benzo (a) pyrene (a SVOC) at 1.7 ppm (SCG = 1 ppm) and arsenic (a metal) at 23 ppm (SCG = 16). Benzo (a) pyrene was also found at SS-4 slightly above Restricted Use SCOs; 3.9 ppm. These results are indicated in Figures 4 and 5.

Subsurface Soil

Subsurface soil samples were collected from soil borings during the installation of groundwater monitoring wells at locations distributed across the site. Fifteen unique samples were collected and analyzed. The analysis from GP-11 indicated benzo (a) pyrene (a SVOC) at 2.4 ppm (SCG = 1 ppm) between four and eight feet below the ground surface at a concentration above Restricted Use SCOs. This result is indicated in Figure 6.

Groundwater

Groundwater samples were collected from seventeen monitoring wells installed on and off-site. Fourteen wells were installed to monitor the top of the water table and shallow groundwater. Three wells were installed to monitor groundwater between eighty and ninety feet below the ground surface to detect compounds that are more dense than water and migrate vertically downward.

Results from the analyses of on-site groundwater samples indicate the presence of several metals such as aluminum, sodium, iron and manganese which is likely due to the historic fill encountered site-wide. These metals are considered nuisance contaminants because they effect the water's taste, color, and/or odor. Magnesium was detected above SCGs in three samples and may also be considered a nuisance metal. Cobalt, barium, and vanadium were each detected at levels exceeding groundwater standards. However, the turbidity of the samples was very high and is most likely the cause of the exceedences.

SCGs for metals in groundwater were marginally exceeded in three additional instances. Chromium was detected in two wells at 73.7 and 93.4 ppb (SCG = 50 ppb). Antimony was detected in one well at 5.13 ppb (SCG = 3 ppb). Again, results are likely attributable to historic fill and the urban setting of the site.

One VOC was detected at a concentration marginally above applicable SCGs. Chloroform was found at 7.2 ppb (SCG = 7 ppb) in one on-site well. There is no known potential cause for this compound at the site. It was not detected in any downgradient locations.

These results and the locations of the exceedences are indicated on Figures 7 and 8.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI. There were no IRMs performed at this site during the SI.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of human exposure pathways can be found in Section 7 of the SI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are no known completed exposure pathways for the site. Potential exposure pathways are discussed below.

Surface Soil

No contaminants were detected above SCGs for commercial use. Therefore, there are no exposure concerns.

Near Surface and Subsurface Soil

Direct contact and ingestion of contaminated soil and inhalation of soil particulates containing elevated levels of metals and SVOCs are potential exposure pathways for future site workers who may contact subsurface soil during soil excavation and stockpiling for future construction work.

Groundwater

Ingestion of groundwater contaminated with metals and a VOC is a potential exposure pathway should the groundwater become available for consumption. This scenario is unlikely because of the availability of public water.

Soil Vapor

Volatile organic compounds present in the groundwater, as described in Section 5.1.2, have the potential to be a source for soil vapor contamination and can pose a potential threat to the indoor air quality of any buildings developed on the site.

5.4: Summary of Environmental Assessment

A small volume of contaminated soil exists between one and eight feet beneath the site, under an asphalt cover. Therefore a viable exposure pathway to fish and wildlife receptors is not present.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS, PROPOSED REMEDY, AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site were to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to SVOCs and non petroleum-related VOCs in subsurface soil;
- exposures of persons at or around the site to metals in groundwater;
- the release of contaminants from soil into groundwater that may create exceedences of groundwater quality standards;

The main SCGs applicable to this project are as follows:

- ambient groundwater quality standards;
- the Department's Restricted Use Soil Cleanup Objectives, Table 375-6.8(b).

Based on the results of the investigations at the site and the status of the existing, intact asphalt/top soil cover, the Department is proposing No Action, with an environmental easement and institutional controls to address potential vapor intrusion issues, as the remedy for the site. The Department believes that this remedy would be protective of human health and the environment and would satisfy all SCGs as described above. Overall protectiveness is achieved through meeting the remediation goals listed above.

1. Imposition of an institutional control in the form of an environmental easement that would require (a) limiting the use and development of the property to commercial use, which would also permit industrial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.
2. Development of a site management plan which would include the following institutional and engineering controls: (a) management of the existing final cover system to restrict excavation below the pavement or existing topsoil. Soil that is excavated for purposes of future development would be tested, properly handled to protect the health and safety of workers and the nearby community, and would be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts where warranted; (c) provisions for the continued proper operation and maintenance of the components of the remedy.
3. The property owner would provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal would: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

The proposed future use for the 314 Clinton Street site is "Commercial."

TABLE 1
Nature and Extent of Contamination

June 2006

NEAR SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)^a	SCG^c (ppm)^a	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo (a) Pyrene	1.7	1	1/12
Metals	Arsenic	23	16	1/12

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)^a	SCG^c (ppm)^a	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo (a) Pyrene	2.4	1	1/12

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)^b	SCG^c (ppb)^b	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Chloroform	7.2	7	1/14
Metals	Chromium	73.7 - 93.4	50	2/14
	Antimony	5.13	3	1/14
	Cobalt	7.54	5	1/14
	Barium	1130	1000	1/14
	Vanadium	20.8	14	1/14

^a ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

^b ppb = parts per billion, which is equivalent to micrograms per kilogram, µg/kg, in water.

^c SCG = standards, criteria, and guidance values;

ND = Not Detected