

# RECORD OF DECISION

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B906 - Page Industrial Area  
State Superfund Project  
Poughkeepsie, Dutchess County  
Site No. 314077  
March 2012



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

# **DECLARATION STATEMENT - RECORD OF DECISION**

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B906 - Page Industrial Area  
State Superfund Project  
Poughkeepsie, Dutchess County  
Site No. 314077  
March 2012

## **Statement of Purpose and Basis**

This document presents the remedy for the B906 - Page Industrial Area site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the B906 - Page Industrial Area site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

## **Description of Selected Remedy**

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRM(s) undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the selected remedy. The remedy may include continued operation of a remedial system if one was installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the remedy for the site.

The IRM(s) conducted at the site attained the remediation objectives identified for this site in Section 6.5 for the protection of public health and the environment.

## **New York State Department of Health Acceptance**

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

**Declaration**

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 31, 2012

Date



Robert W. Schick, P.E., Acting Director  
Division of Environmental Remediation

# **RECORD OF DECISION**

B906 - Page Industrial Area  
Poughkeepsie, Dutchess County  
Site No. 314077  
March 2012

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## **SECTION 1: SUMMARY AND PURPOSE**

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy selected by this Record of Decision (ROD). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed controls that have been identified as being part of the remedy for the site. This ROD identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

## **SECTION 2: CITIZEN PARTICIPATION**

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made

available for review by the public at the following document repository:

Adriance Memorial Library  
93 Market Street  
Poughkeepsie, NY 12601  
Phone: (845) 485-3445

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

### **Receive Site Citizen Participation Information By Email**

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

### **SECTION 3: SITE DESCRIPTION AND HISTORY**

**Location:** The B906 - Page Industrial Area site is located at 360 Manchester Road (Route 55) in the Town of Poughkeepsie, Dutchess County. A site location map is attached as Figure 1.

**Site Features:** The site is located within an industrial park. The B906 building is currently used as a storage facility. Uses of other buildings in the industrial park include office space and a laboratory.

**Current Zoning/Use(s):** The site is zoned for commercial storage and warehouse purposes. Surrounding land uses include a combination of industrial and commercial uses.

**Historic Use(s):** Past site operations (1953 to 1988) included a variety of industrial activities such as plating, heat treating, degreasing and painting. These activities resulted in the disposal/release of waste chemicals in two areas to the north of the B906 building. These included spent solvents, rinses, plating baths, tank cleaning water and waste oils.

In 1983, before the site entered into a remedial program, remedial activities were implemented to mitigate known impacts to soil. The goal of this effort was to remove soil from the northwest corner of the B906 building that was the source of groundwater contamination. The remedial

activities were completed by IBM and included the delineation, excavation and off-site disposal of contaminated soil from this source area. All soil that contained greater than 0.5 parts per million of total volatile organic chemicals were removed. In all, approximately 2,575 cubic yards of contaminated soil was excavated and replaced with clean backfill. The soil was disposed of off-site at a permitted disposal facility. Figure 2 depicts the excavation area.

Site Geology/Hydrogeology: Overburden consists of sands and gravel, along with some silt. The bedrock underlying the site is shale. There are two groundwater aquifers present at the site, a deep bedrock aquifer and a shallow unconsolidated aquifer. Groundwater in the shallow aquifer flows to the northeast across the site along a buried alluvial channel that was identified during the investigation. The channel acts as a preferential pathway for groundwater flow, from which it discharges to Wappingers Creek. The average depth to water across the site is 8 feet.

#### **SECTION 4: LAND USE AND PHYSICAL SETTING**

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

#### **SECTION 5: ENFORCEMENT STATUS**

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

The PRPs for the site, documented to date, include:

H.G.P. Realty Corporation

Schlumberger Technology Corporation

International Business Machines

Schlumberger entered into an Order on Consent with the Department on September 5, 1995 to perform a Focused Field Investigation, equivalent to a Remedial Investigation. The Order also enabled Schlumberger to propose and perform Interim Remedial Measures (IRMs).

#### **SECTION 6: SITE CONTAMINATION**

##### **6.1: Summary of the Remedial Investigation**

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- soil vapor
- indoor air

#### **6.1.1: Standards, Criteria, and Guidance (SCGs)**

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCG in the footnotes. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

#### **6.1.2: RI Results**

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data.

The contaminant(s) of concern identified at this site is/are:

TETRACHLOROETHYLENE (PCE)      ETHENE, 1,2, cis-dichloro  
TRICHLOROETHENE (TCE)

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

## **6.2: 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 issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

### **Permeable Reactive Barrier (PRB)**

An IRM was completed in August of 2008 to install a permeable reactive barrier (PRB) at the site to enhance the degradation of contaminants in groundwater. The barrier wall consists of a mixture of zero valent iron (ZVI) filings and concrete sand. Approximately 85 tons of material was used, of which ZVI comprised twenty percent by volume. A trench was dug and the iron mixture was placed in the treatment zone from the surface of bedrock to the top of the saturated zone. The treatment zone was approximately 12 feet deep, 2 feet wide and 220 feet long. The ZVI facilitates the process of reductive dechlorination and thereby enhances the natural breakdown of contamination. Post-installation groundwater sampling is ongoing, and current data indicates a steady decline in contaminant concentrations. The location of the PRB is shown in Figure 3.

## **6.3: Summary of Environmental Assessment**

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 01, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

### **Nature and Extent of Contamination:**

Contaminants of concern in groundwater include the chlorinated solvents tetrachloroethylene (PCE), trichloroethene (TCE) and cis-1,2 dichloroethene (DCE). The plume of contaminated groundwater originates in the vicinity of the B906 building and extends toward Wappingers Creek. PCE, TCE and cis-1,2 DCE have been detected at maximum concentrations of 920, 290

and 130 parts per billion (ppb), respectively, as compared to their groundwater quality standard of 5 ppb.

Contaminants of concern in soil include PCE, TCE and cis-1,2 DCE. Contamination that was detected in the source area near the northwest corner of the B906 building was excavated in 1983 using an action level of 0.5 ppm. There were no soil exceedances detected during the FFI sampling activities. Generally, the historic soil removal effort is considered to have addressed the source area of the contamination.

Contaminants of concern in soil vapor include PCE and TCE. Soil vapor intrusion was identified to be occurring in the office area of the B906 building. PCE was found at maximum concentrations of 880 ug/m<sup>3</sup> in the sub-slab vapor and at 16 ug/m<sup>3</sup> in the indoor air. TCE was detected at maximum concentrations of 960 ug/m<sup>3</sup> in the sub-slab vapor and at 7 ug/m<sup>3</sup> in the indoor air.

Special resources impacted/threatened: Downgradient of the site is Wappingers Creek. Low levels of contamination have historically been detected in seeps near the creek. The permeable reactive barrier that was installed in 2008 is effectively addressing this issue by reducing contaminants in the groundwater plume before it reaches Wappingers Creek.

#### **6.4: Summary of Human Exposure Pathways**

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Soil vapor intrusion sampling identified impacts in indoor air quality. This site-related impact is limited to one on-site building and represents a health concern.

#### **6.5: Summary of the Remediation Objectives**

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

## **Groundwater**

### **RAOs for Public Health Protection**

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

### **RAOs for Environmental Protection**

- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

## **Soil**

### **RAOs for Public Health Protection**

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

### **RAOs for Environmental Protection**

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

## **Soil Vapor**

### **RAOs for Public Health Protection**

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

## **SECTION 7: SUMMARY OF SELECTED REMEDY**

Based on the results of the investigations at the site, the IRMs that have been performed, and the evaluation presented here; the Department is proposing No Further Action with continued operation of the PRB, mitigation of soil vapor intrusion impacts in the office area of the B906 building, and imposition of an Institutional Control as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5. The elements of the IRM already completed and the institutional and engineering controls are listed below:

1. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan.

2. A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed above.

Engineering Controls: The PRB discussed in Section 6.2 above and the SSDS discussed in Paragraph 3 below.

This Institutional and Engineering Control Plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

monitoring of groundwater and soil vapor to assess the performance and effectiveness of the remedy; a schedule of monitoring and frequency of submittals to the Department; monitoring for vapor intrusion for any buildings occupied or developed on-site and off-site where site-related contamination is present, as may be required by the Institutional and Engineering Control Plan discussed in item a above.

3. Installation of a sub-slab depressurization system (SSDS) in the office area of the B906 building where soil vapor intrusion impacts have been identified. The SSDS will eliminate potential exposures by preventing contaminated soil vapor from entering the on-site building. As part of the SSDS installation, communications testing will be performed to verify that the radius of influence of the system provides adequate sub-slab venting for the structure.

## **Exhibit A**

### **Nature and Extent of Contamination**

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants of concern at the site are volatile organic compounds (VOCs). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

### **Waste/Source Areas**

As described in the Focused Field Investigation (FFI) report, waste/source materials were present at the site. These contaminants have impacted the site's groundwater, soil and soil vapor.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the site including, an area in the vicinity of the northwest corner of the B906 building. As discussed in Section 6.4, this was the source area for the primary contaminants of concern: PCE, TCE, and their breakdown product cis-1,2 DCE. These are the chlorinated solvents that are associated with the past industrial use of the site. Past reports indicated that significant quantities of hazardous wastes were disposed in this area, which contributed to the groundwater contaminant plume. As discussed in Section 3, this area was remediated in 1983, before the site entered into a remedial program.

### **Groundwater**

A total of 27 samples were collected during the FFI to determine the nature and extent of contamination in the groundwater. Nine of the samples were collected from new and existing bedrock wells. An additional eighteen samples were collected from temporary overburden monitoring points that were installed to investigate the alluvial channel.

As shown in Table 1, several samples exceeded the SCGs for the contaminants of concern. Contamination was detected above SCGs in both the overburden and bedrock groundwater. Figure 4 depicts the overburden groundwater plume for PCE. Figure 5 illustrates the bedrock groundwater plume for PCE.

**Table # 1 – FFI Groundwater Data**

Detected Constituents	Concentration Range Detected (ppb) <sup>a</sup>	SCG <sup>b</sup> (ppb)	Frequency Exceeding SCG
<b>VOCs</b>			
Tetrachloroethene	ND – 920	5	17 of 27
Trichloroethene	ND - 290	5	14 of 27
Cis 1,2 Dichloroethene	ND -130	5	4 of 27

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Table 2 contains the results of the post-IRM groundwater sampling that has been performed to monitor the performance of the permeable reactive barrier (PRB). Seven overburden groundwater wells were installed in the vicinity of the PRB for this task. Six rounds of groundwater performance monitoring have been completed since the IRM was constructed in August of 2008. Table 2 contains the results of the most recent sampling event that reflects current groundwater conditions. The data indicates a gradual decrease in contaminant concentrations for all wells sampled. Figure 3 depicts the location of the performance monitoring wells.

**Table # 2 – Post-IRM Groundwater Data**

Detected Constituents	Concentration Range Detected (ppb) <sup>a</sup>	SCG <sup>b</sup> (ppb)	Frequency Exceeding SCG
<b>VOCs</b>			
Tetrachloroethene	9.3 -31	5	7 of 7
Trichloroethene	7.8 - 23	5	7 of 7
Cis 1,2 Dichloroethene	0.23 – 1.2	5	0 of 7

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Groundwater contamination identified during the RI was addressed during the IRM described in Section 6.2. Although many of the post-IRM groundwater samples contain contamination above their respective SCGs, the most recent data continues to indicate a trend of decreasing contaminant concentrations since the PRB was installed. It is expected that the PRB will further reduce groundwater contaminant concentrations in the future.

## Soil

Subsurface soil samples were collected at the site during the FFI. A total of 21 soil borings were advanced by direct push method to investigate the identified underground channel. A photoionization detector was used to screen the soil cores and one sample was collected from each boring. In general the samples were collected at the water table, which ranges from approximately six to ten feet below grade.

Table 3 contains the results of the soil sampling. Figure 6 depicts the soil boring locations.

**Table # 3- Soil**

Detected Constituents	Concentration Range Detected (ppm) <sup>a</sup>	Unrestricted SCG <sup>b</sup> (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG <sup>c</sup> (ppm)	Frequency Exceeding Restricted SCG
<b>VOCs</b>					
Tetrachloroethene	ND - .019	1.3	0 of 21	1.3	0 of 21
Trichloroethene	ND - .0094	0.47	0 of 21	0.47	0 of 21
Cis-1,2 Dichloroethene	ND - .0028	0.25	0 of 21	0.25	0 of 21

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

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

The contaminants of concern, PCE, TCE and cis-1,2 DCE were not detected in any of the soil samples that were collected. Based upon the results of the sampling, the 1983 soil excavation described in Section 6.2 is believed to have removed the extent of the site's soil contamination.

### Surface Water

Table 4 contains the results of the surface water sampling. Three surface water samples were collected during the investigation activities that were completed to evaluate the design of the PRB. The samples were taken from the vicinity of where the groundwater plume discharges to the creek. None of the samples exceeded surface water standards.

**Table # 4- Surface Water**

Detected Constituents	Concentration Range Detected (ppb) <sup>a</sup>	SCG <sup>b</sup> (ppb)	Frequency Exceeding SCG
<b>VOCs</b>			
Tetrachloroethene	ND	5	0 of 3
Trichloroethene	ND	5	0 of 3
Cis 1,2 Dichloroethene	ND	5	0 of 3

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Based upon the results of the surface water sampling, there were no impacts evident to the creek. In addition, the PRB will reduce the potential for any future discharges to the creek.

## Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of sub-slab soil vapor under structures, and indoor air inside structures. At this site due to the presence of buildings in the impacted area a full suite of samples were collected to evaluate whether soil vapor intrusion was occurring.

Due to their locations relative to the site's groundwater plume, the B906 and B931 buildings were identified for soil vapor intrusion sampling. Numerous samples were collected to assess the potential for soil vapor intrusion at each location and appropriate guidance procedures were followed during their collection. Two samples, one sub-slab and one indoor air, were collected from the office area of the B906 building. In addition, four sub-slab and indoor sample pairs were collected from the B931 building. Outdoor ambient air samples were also collected for each building. The results of the sampling are as follows for each building.

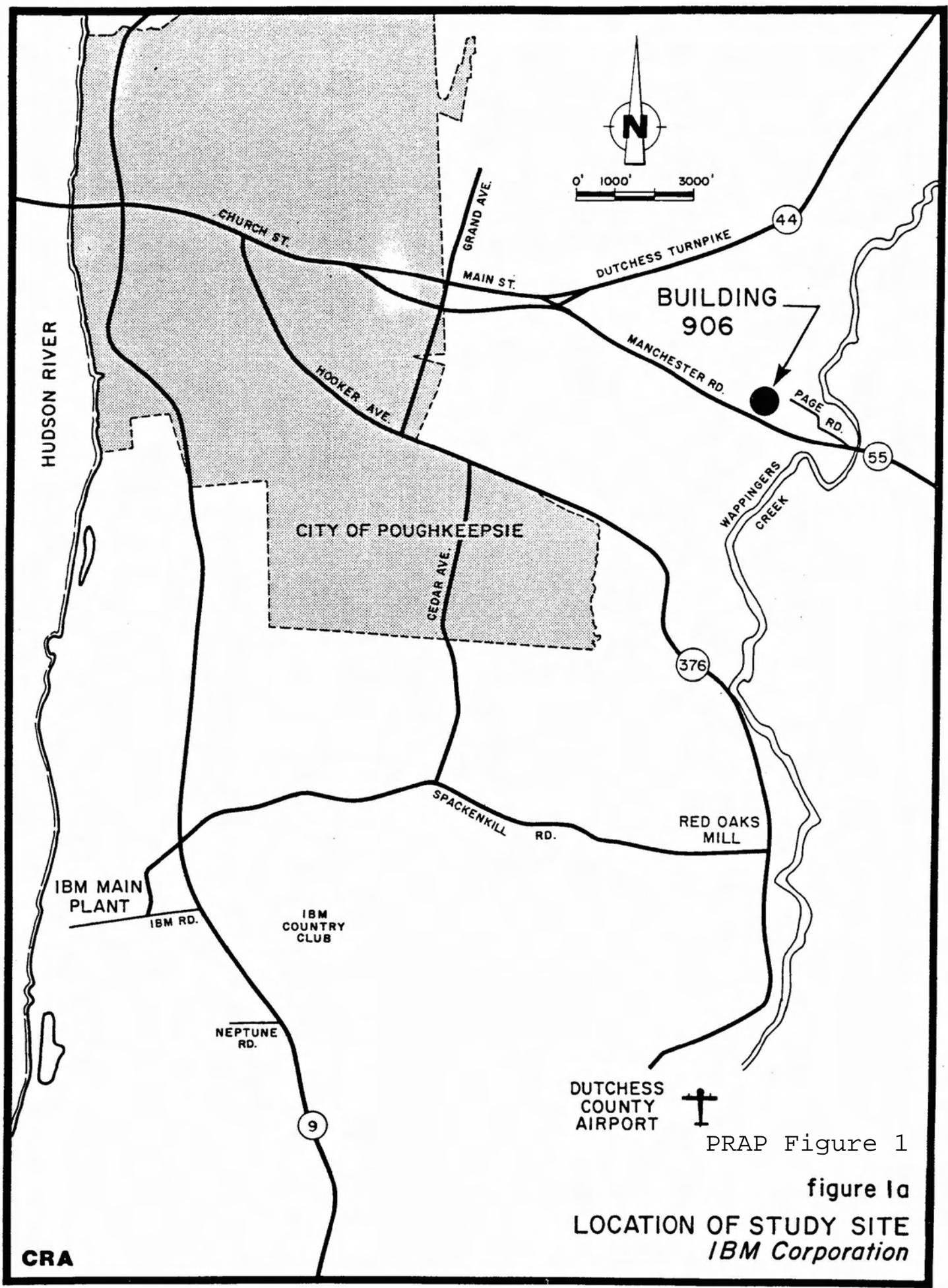
### **B906 Building**

Figure 7 shows the sampling location in the B906 building. A set of sub-slab and indoor air samples were collected concurrently from the office area of the building. The sampling results indicate that two contaminants of concern, TCE and PCE, were detected in the sub-slab and indoor air of the B906 building's office area. TCE was detected at a concentration of 960 ug/m<sup>3</sup> in the sub-slab vapor and at 7 ug/m<sup>3</sup> in the indoor air. PCE was found at a concentration of 880 ug/m<sup>3</sup> in the sub-slab vapor and at 16 ug/m<sup>3</sup> in the indoor air.

### **B931 Building**

The sampling results indicate that two contaminants of concern, TCE and PCE were detected in the sub-slab and indoor air of the B931 building. TCE was detected at a maximum concentration of 11 ug/m<sup>3</sup> in the sub-slab vapor, but was not detected in the indoor air. PCE was found at a maximum concentration 58 ug/m<sup>3</sup> in the sub-slab vapor and was also not detected in the indoor air.

These findings indicate that the disposal of hazardous waste has resulted in the contamination of soil vapor at the site. Based on the concentrations detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, soil vapor intrusion is a concern in the B906 building, and mitigation is necessary. The levels of contamination detected beneath the B931 building do not indicate that soil vapor intrusion mitigation is warranted at this time.



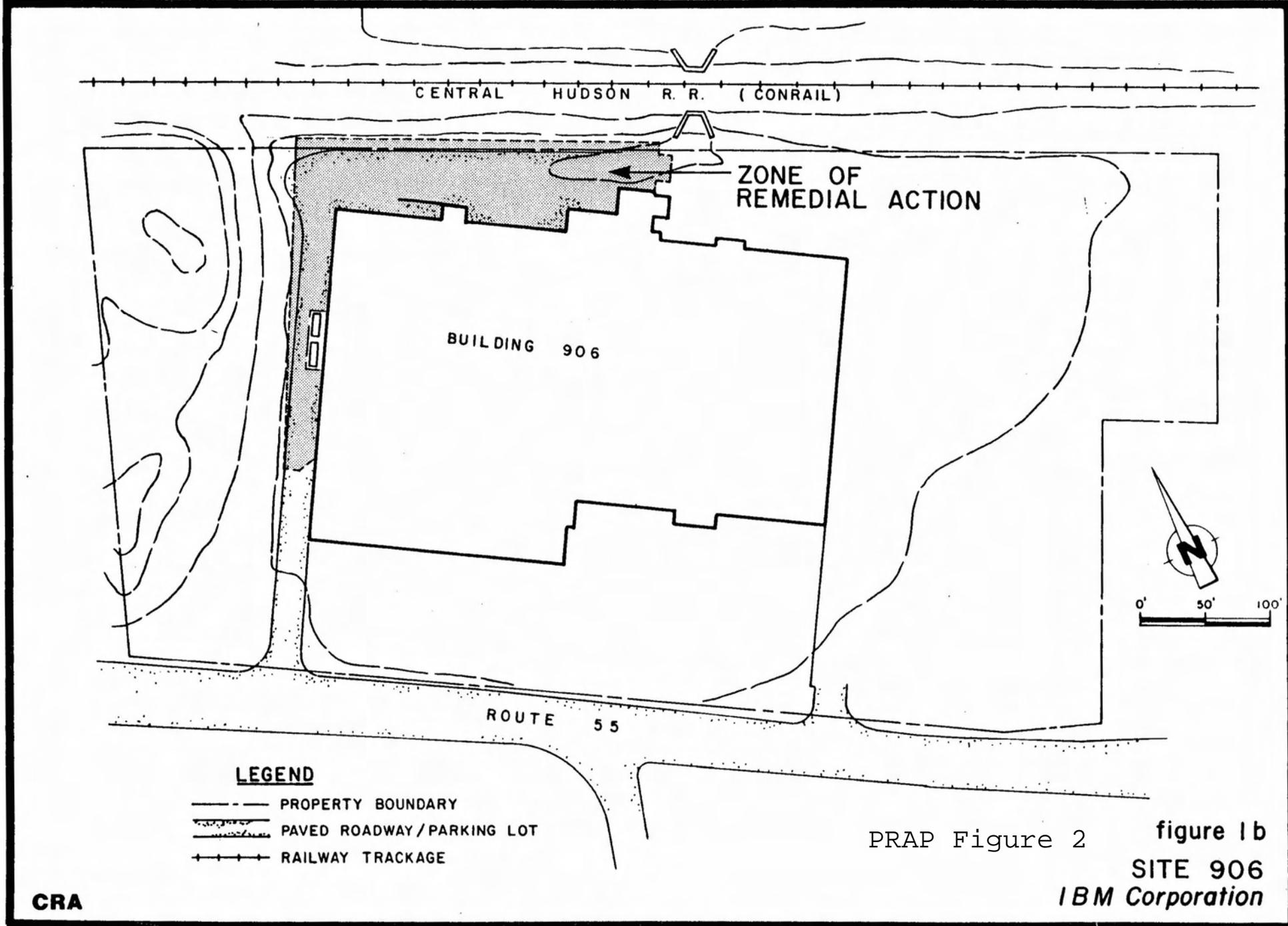
**CRA**

DUTCHESS COUNTY AIRPORT

PRAP Figure 1

figure 1a

LOCATION OF STUDY SITE  
IBM Corporation

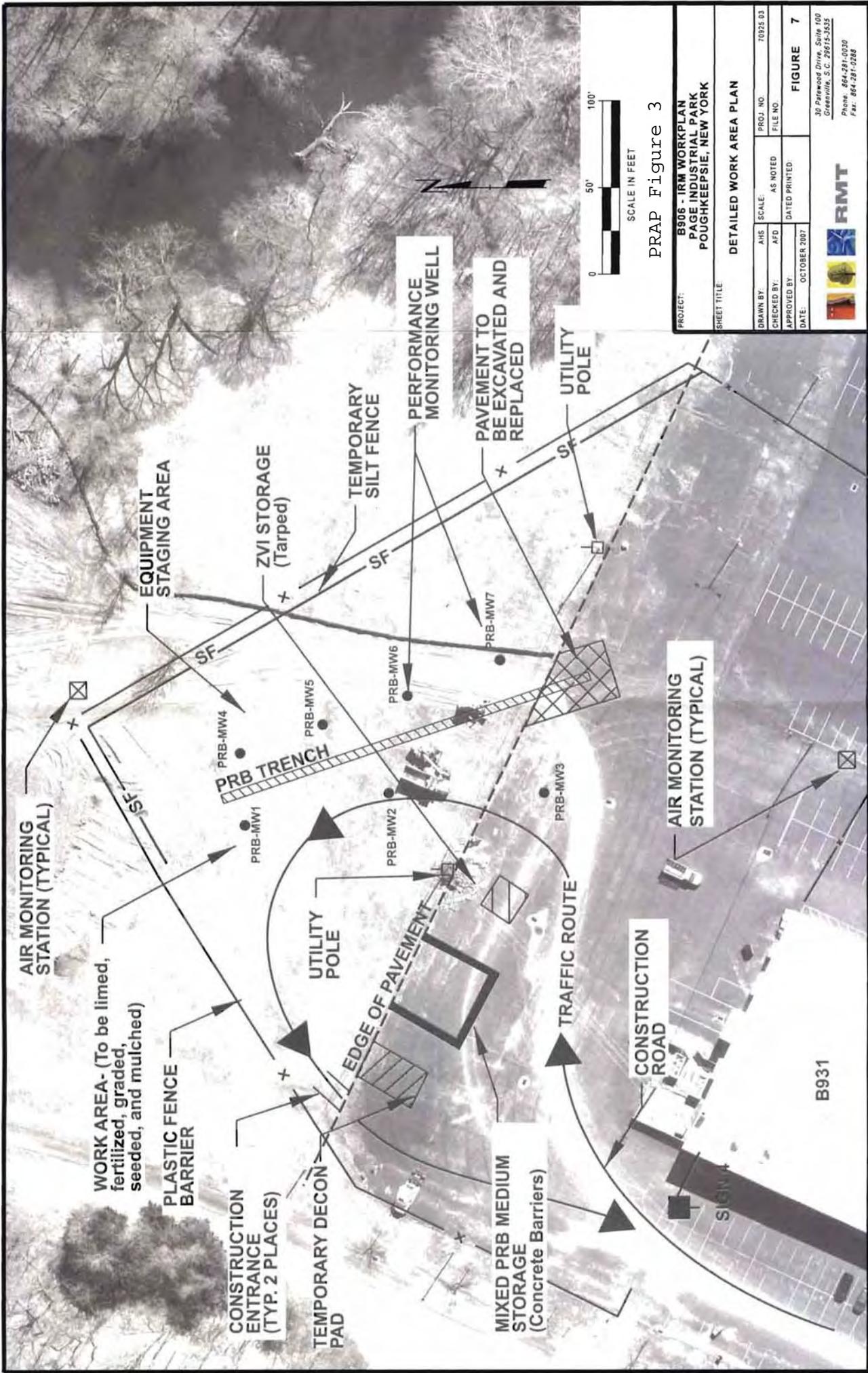


**LEGEND**

- — — — — PROPERTY BOUNDARY
- ▬▬▬▬▬ PAVED ROADWAY/PARKING LOT
- + + + + + RAILWAY TRACKAGE

PRAP Figure 2      figure 1b  
 SITE 906  
 IBM Corporation

**CRA**



SCALE IN FEET  
 0 50' 100'

PRAP Figure 3

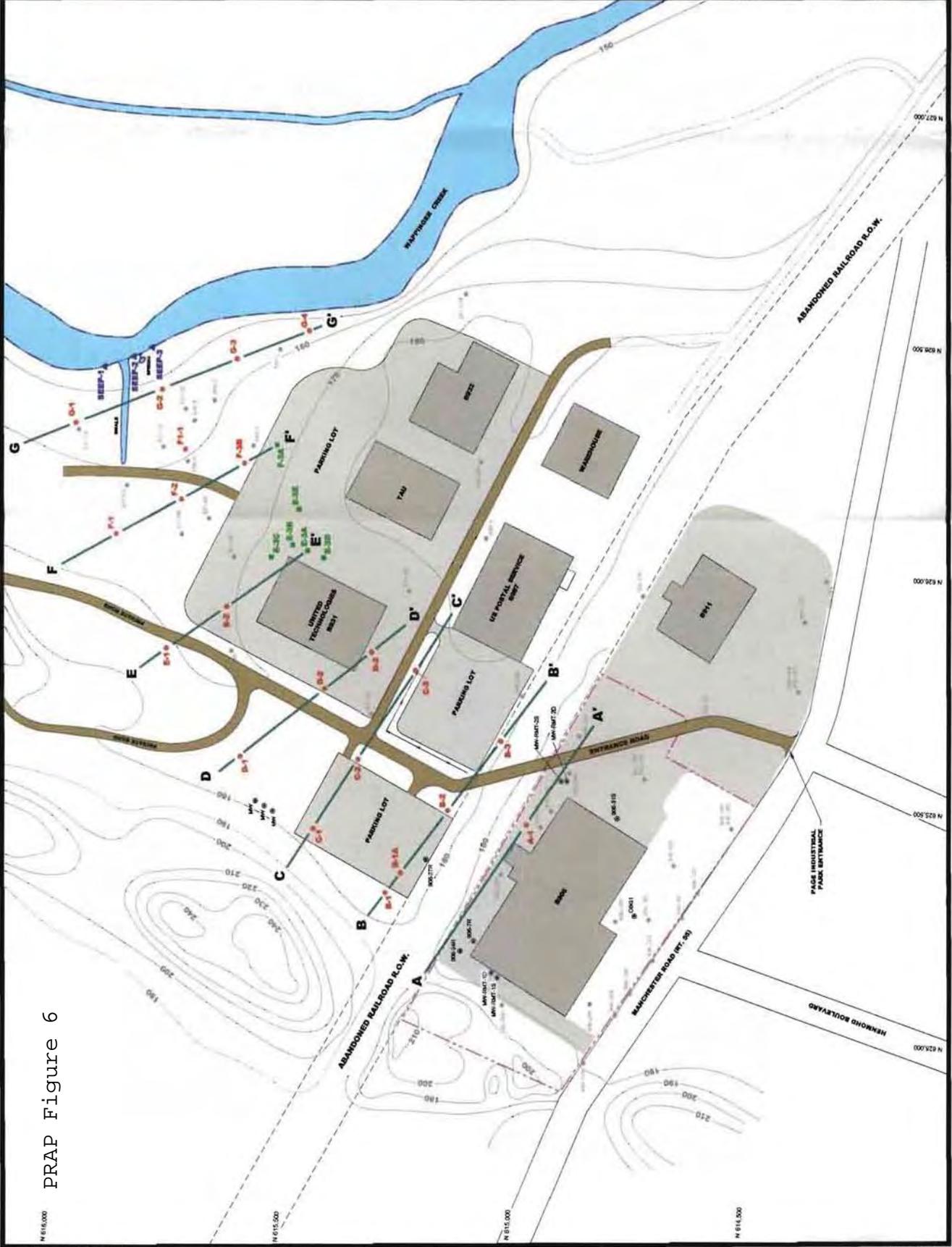
PROJECT:		B906 - IRM WORKPLAN PAGE INDUSTRIAL PARK POUGHKEEPSIE, NEW YORK	
SHEET TITLE: DETAILED WORK AREA PLAN			
DRAWN BY:	AHS	SCALE:	AS NOTED
CHECKED BY:	AFD	PROJ. NO:	70925 93
APPROVED BY:		FILE NO:	
DATE:	OCTOBER 2007	DATED PRINTED:	
			FIGURE 7
30 Palmetto Drive, Suite 100 Greenville, SC 29615-3525 Phone: 864-281-0030 Fax: 864-281-0288			







PRAP Figure 6



- LEGEND**
- APPROXIMATE PROPERTY LINE
  - EXISTING MONITORING WELL LOCATION AND NUMBER
  - PROPOSED MONITORING WELL LOCATION AND NUMBER
  - GEOPROBE LOCATION AND NUMBER
  - BORING TRAILER/PILE LINE
  - DEEP SAMPLE LOCATION AND NUMBER
  - ATTEMPTED GEOPROBE LOCATION
  - PAVED AREA
  - BUILDING

- NOTES**
1. BASE MAP DEVELOPED FROM THE FOLLOWING SOURCES:
    - LANDSAT, AIR PHOTO, AND AERIAL DRAWING AND COPIES
    - GEORADAR INTERFEROMETRY, DRAWING NO. 2003-1-24E
    - DATUM: NAD 83
    - SCALE: 1 INCH = 100 FEET U.S. TO GRAPHIC
    - GEORADAR DATA DATED JAN 1, 1993
  2. WELL LOCATIONS ARE APPROXIMATE.

PROJECT NO.	2003-1-24E
DATE	10/20/03
DESIGNED BY	DM
DRAWN BY	DM
CHECKED BY	DM
DATE	OCTOBER 2003

**FIGURE 1**

**GEOPROBE LOCATION PLAN**

**BD006 SITE**  
**PAGE INDUSTRIAL PARK**  
**POUGHKEEPSIE, NEW YORK**

SCALE: 1" = 100'

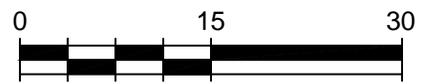
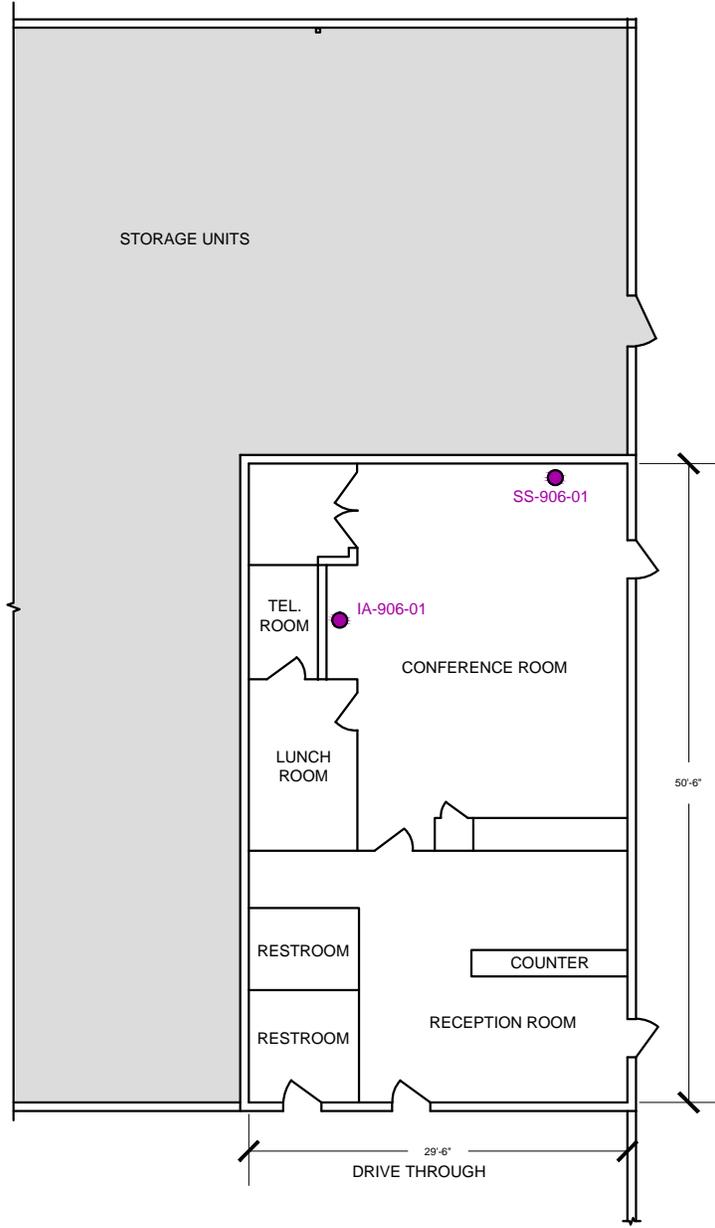
DATE: OCTOBER 2003

PROJECT NO.: 2003-1-24E  
 DATE: 10/20/03  
 DESIGNED BY: DM  
 DRAWN BY: DM  
 CHECKED BY: DM

**RMT**  
 RMT INC.  
 110 WEST STREET  
 POUGHKEEPSIE, NY 12560-3311  
 TEL: 845-486-1100  
 FAX: 845-486-1101

# PRAP Figure 7

AA-906-01  
(ON MAIL BOXES)



**LEGEND:**

- EXISTING WALL
- ⌣ DOOR
- FLOOR DRAIN
- SUB-SLAB VAPOR AND INDOOR AIR SAMPLE LOCATION (LOCATIONS ARE APPROXIMATE)

**H.G.P. REALTY CORPORATION**  
Poughkeepsie, New York

**SUB-SLAB VAPOR AND INDOOR AIR  
SAMPLE LOCATIONS  
BUILDING #906, DECEMBER 2011**



FIGURE 1	FEB. 2012
SL-0750	

# **APPENDIX A**

## **Responsiveness Summary**

# **RESPONSIVENESS SUMMARY**

**B906 - Page Industrial Area  
State Superfund Project  
Town of Poughkeepsie, Dutchess County, New York  
Site No. 314077**

The Proposed Remedial Action Plan (PRAP) for the B906 - Page Industrial Area site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 29, 2012. The PRAP outlined the remedial measure proposed for the contaminated groundwater and soil vapor at the B906 - Page Industrial Area site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 13, 2012, which included a presentation of the remedial investigation and Interim Remedial Measure for the B906 - Page Industrial Area site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 30, 2012.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

Ms. Doreen Simmons of Hancock Estabrook, LLP submitted a letter dated March 28, 2012, on behalf of Schlumberger Technology Corporation, which included the following comments:

COMMENT 1: First, we note that the reference in the PRAP to “Schlumberger” should list the correct entity, Schlumberger Technology Corporation (STC); Order Respondent.

RESPONSE 1: The Department concurs and the change was made in the ROD.

COMMENT 2: Historic use(s): Past Site operations were actually from approximately 1953 through 1988 – IBM Work Plan and O’Brien and Gere Engineers. Reference to the 1983 Remedial Activity should state that they were implemented by IBM to mitigate known impacts to soil.

RESPONSE 2: The ROD was updated to reflect the site operational history documented in the IBM work plan. The discussion of the soil excavation history will note that the work was completed by IBM.

COMMENT 3: The PRPs for the Site documented to date should include:  
-International Business Machines

-Schlumberger Technology Corporation (STC)  
-HGP Realty Corp. (property owner from 1953 to present) and Storage Depot, LLC  
(current operator)

RESPONSE 3: The Department concurs and the PRP discussion in the ROD was updated to reflect all of the PRPs.

COMMENT 4: Add surface water data to analytical data collected.

RESPONSE 4: The ROD was revised to reflect that surface water data was collected.

COMMENT 5: Although apparently not under a Regulatory Order, it is respectfully submitted that the section on Interim Remedial Measures (6.2) should reference as an IRM the soils excavation activities of IBM described earlier in the PRAP.

RESPONSE 5: The comment is noted. However, since the soil removal action was not completed under an Order, it is considered part of the site's history and is discussed as such.

COMMENT 6: Remove reference to OU-1.

RESPONSE 6: The term OU-1 represents the term "Operable Unit No. 1" and is in reference to site's remedial program. The Department acknowledges that the site is being addressed as a single operable unit.

COMMENT 7: Add at the end of 4th paragraph (Page 6) that "no VOCs in soil exceed SCGs".

RESPONSE 7: The Department has updated the environmental assessment in the ROD to state that no soil exceedances of SCGs were detected during the investigation.

COMMENT 8: Reference to mitigation of soil vapor intrusion impacts should be "in the office area of the B906 Building". Similarly, on Page 8, paragraph 3, "in the office area of the B906 Building"....

RESPONSE 8: The language in the ROD was modified to reflect that the soil vapor intrusion sampling was completed specifically in the office area of the B906 Building.

COMMENT 9: Remove reference to Excavation Plan (soils do not exceed guidance).

RESPONSE 9: An Excavation Plan will be needed, but will only be applicable when excavation activities are expected to be below the water table.

COMMENT 10: In Exhibit A, Table #1, reference to 290 ppb should be 89 ppb.

RESPONSE 10: The Table does not differentiate between overburden and bedrock groundwater. The maximum level of TCE was detected at 290 ppb in the site's bedrock groundwater (FFI Report October 2001), whereas the maximum levels of the other contaminants of concern were

detected in the overburden groundwater.

COMMENT 11: Page 4 - Note only the office area for B906.

RESPONSE 11: The ROD has been updated to indicate that soil vapor intrusion sampling was completed only in the B906 office area. The ROD also states that mitigation is only for the office area of B906.

COMMENT 12: The reported concentrations are in ppb/parts per billion not ppm/parts per million. Hence the table and following paragraph should be removed from Exhibit A; or in the alternative change the table values and note there was no exceedance.

RESPONSE 12: The Table has been modified to reflect the correct units and shows that no soil exceeding SCOs were detected.

## **APPENDIX B**

### **Administrative Record**

# **Administrative Record**

**B906 - Page Industrial Area  
State Superfund Project  
Town of Poughkeepsie, Dutchess County, New York  
Site No. 314077**

1. Proposed Remedial Action Plan for the {B906} site, dated February 2012, prepared by the Department.
2. Order on Consent, Index No. W3-0733-95-02, between the Department and Schlumberger Industries, Inc., executed on 9/5/95.
3. "Focused Field Investigation Report" (October 2001) prepared by RMT Consulting.
4. "Supplemental Focused Field Investigation" (October 2002) prepared by RMT Consulting.
5. "Permeable Reactive Barrier Preliminary Design Report" (May 2007) prepared by RMT Consulting.
6. "Permeable Reactive Barrier Final Design and Remedial Action Work Plan" (November 2007) prepared by RMT Consulting.
7. "Interim Remedial Measure Completion Report" (October 2008) prepared by RMT Consulting.
8. "Vapor Intrusion Evaluation Report" (February 2012) prepared by EnviroGroup Limited.