

PHASE II INVESTIGATION  
WORK PLAN

METRO-NORTH RAILYARD  
VILLAGE OF CROTON-ON-HUDSON, WESTCHESTER COUNTY, NEW YORK  
SITE #360010

Prepared For:

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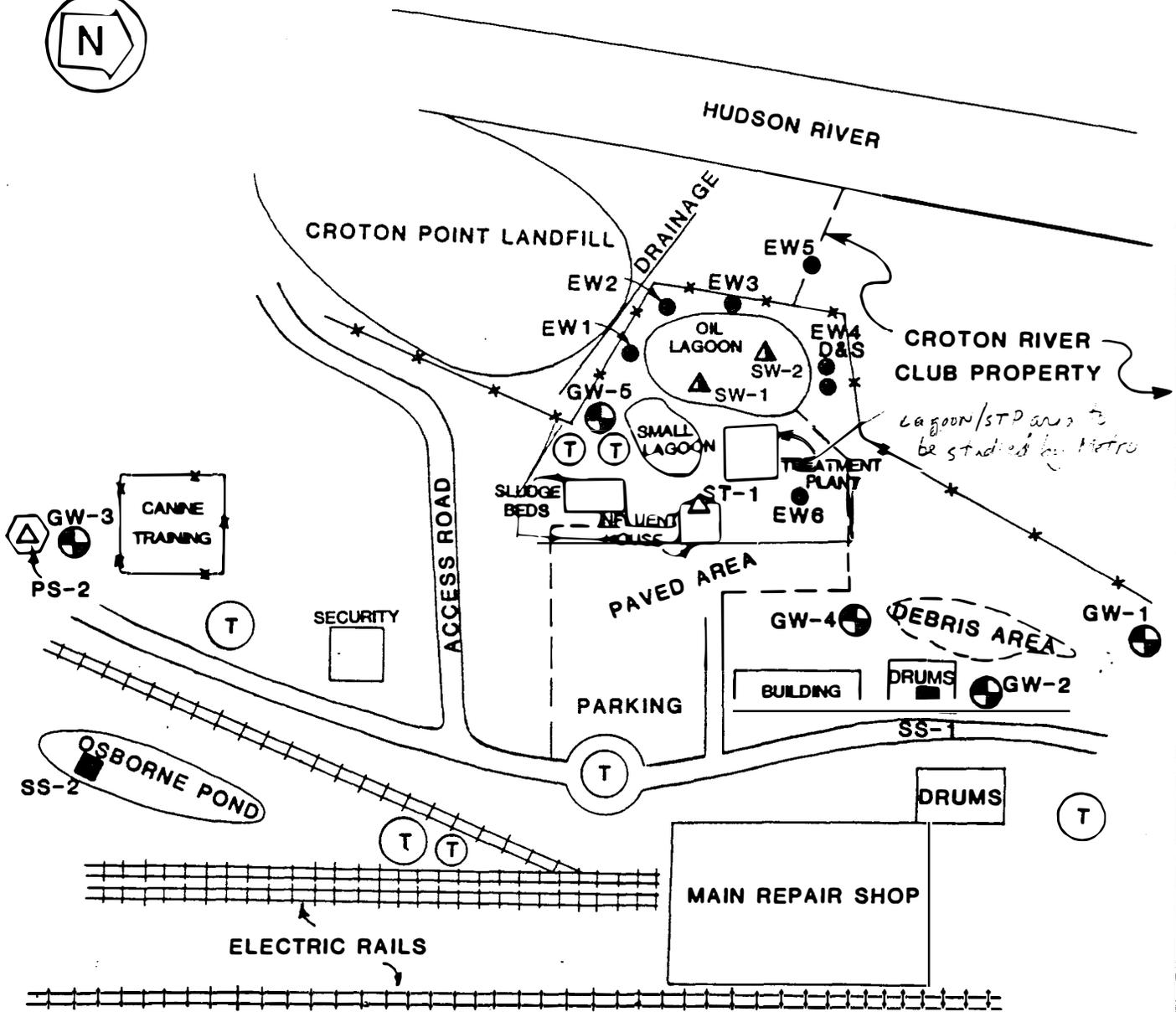
## 1.0 INTRODUCTION

The Metro-North Railyard site is located in the village of Croton-on-Hudson in Westchester County, New York. The site is currently an active railroad repair yard for commuter trains to New York City. The areas of concern include the old waste lagoon and the old drum storage area. Both areas are adjacent to the Hudson River (Figure 1).

PCB contamination has occurred on site due to repair activities on electric motors for train engines. OH Materials has been contracted to begin clean-up over a large section of the site. A new wastewater treatment facility and a new drainage system has been installed.

Six wells have been installed around the wastewater treatment pond. Analysis of groundwater samples from these wells indicate low concentrations of PCB's. During the site inspection on November 19, 1985, leachate originating from the lagoon on Croton Point Landfill was observed entering a ditch and moving toward Well #1. It appeared that the leachate had eroded some of the soil away from the grout surrounding the well.

The underlying soils consist of finely bedded lacustrine river clays and sands which grade into large clay and sand lenses. The area is subject to fluctuating water levels resulting from tidal action in the Hudson River.



**LEGEND**

- △ PS-2/ST-1 WATER SAMPLE
- ⊙ T TANKS
- ⬡ PUMP STATION
- EW1 EXISTING WELL
- ⊕ GW-1 PROPOSED WELL
- ▲ SW-1 WATER/SEDIMENT SAMPLE
- SS-1 SOIL SAMPLE

BRUNING J1160-1



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Ckd.		
Ap'vd.		
Rev.		

**METRO-NORTH RAILYARD**  
**NYS SUPERFUND**  
**PHASE II**

SITE NO. 360010  
 Project No. 5C280500

**PROPOSED SAMPLING**  
**LOCATION MAP**

**A** **FIGURE 1**

## 2.0 OBJECTIVE

The New York State Department of Environmental Conservation (NYSDEC) has chosen to perform a Phase II Site Investigation of the Metro-North Railyard site, which is located in Croton-on-Hudson, Westchester County, New York. The purpose of this investigation is to address specific concerns regarding past waste disposal practices and to provide additional information for scoring of the property utilizing the Hazard Ranking System (HRS). The HRS is the standard ranking system adopted by NYSDEC for state Superfund projects and for the ranking of inactive hazardous waste sites. The NYSDEC Superfund program consists of a Phase I investigation in which a preliminary HRS score is obtained, and a subsequent Phase II investigation to fill data gaps and substantiate findings for a final HRS score. A Phase I study has been completed for the Metro-North Railyard site. Consequently, the objectives of a Phase II investigation are:

- o Provide a preliminary geologic and hydrogeologic site assessment.
- o Identify and evaluate the presence and nature of contamination.
- o Based on conclusions formulated by accomplishing objectives one and two, evaluate the environmental significance.
- o Provide additional information for scoring the site utilizing the Mitre Model Hazard Ranking System (HRS).
- o Prepare a report document which will be in accordance with NYSDEC's Phase II report format.

### 3.0 PROJECT SCOPE

A number of tasks will be performed at this site to satisfy the previously described objectives. A list of the investigative tasks to be performed and a brief description of each task can be found in Table 1. The following sections provide a detailed explanation of the tasks.

### 4.0 TASK 1: LITERATURE REVIEW

A review of available data regarding the site will be performed prior to or concurrent with the site reconnaissance. During the review process, the Phase I report will be re-evaluated for completeness, any new data gaps will be identified. Also, the literature review process will include a review of site sketches, any utility maps including city water and sewer line drawings and the determination of the need to acquire any permits prior to the initiation of field activities.

### 5.0 TASK 2: SITE RECONNAISSANCE

A site reconnaissance will be conducted prior to the commencement of any drilling or sampling activities. At this time, markers designating the tentative locations for test borings, monitoring wells and surface sampling locations will be emplaced. Additionally, at this time, various site specific information for drilling activities will be obtained. This will include such tasks as locating and gaining access to water for drilling, evaluating the sites accessibility and obtaining seasonal groundwater saturation levels.

INVESTIGATIVE TASKS SUMMARY FOR PHASE II WORK PLAN  
Metro-North Railyard

<u>Task No.</u>	<u>Task Assignment</u>	<u>Narrative Description</u>
1	Literature Search	Review all available data and identify data gaps. If necessary, attempt to obtain pertinent information for completion of Phase I.
2	Site Reconnaissance	Determine and physically designate the tentative locations for drilling and sampling. Also, verify accessibility of drill rigs to the site by considering such factors as overhead obstruction, seasonal ground saturation levels, variation in topography, road usage, etc. Locate water supply for drilling purposes. Conduct air monitoring, using a photoionization detector scan.
3	Geophysical Survey	A limited geophysical survey using the terrain conductivity method will be performed around the waste lagoon and sludge beds in an attempt to detect possible leakage.
4	Test Boring/Geotechnical Analysis/Monitoring Well Installation	Five (5) new test borings will be drilled and two (2) split spoon samples will be selected per borehole for grain size analysis. The monitoring wells will be placed in the original test boring holes. Borings will be drilled to a depth of approximately 25 feet. The first boring (GW-1) will be used for stratigraphic background information; therefore, the final depth of the remaining wells may change upon reviewing the stratigraphy. The remaining test borings (GW-2 through GW-5) will be used to help determine if there is contamination from waste disposal activities on site. Two of the seven existing wells at the site may also need to be replaced should it be found that the well cannot be sampled. In each monitoring well, a ten foot well screen will be located about one foot above encountered groundwater. Wells will be constructed of PVC pipe and screen. Permeability tests and well development will be performed. Also, surveying and static water measurements will be taken.
5	Sampling and Analysis (Optional)	
	o Groundwater Samples	A total of twelve groundwater samples will be taken and analyzed for hazardous substance list metals, organics, HOS-E PCBs/pesticides, and specific conductance.
	o Surface Water Samples	Two (2) surface water samples will be collected and analyzed for hazardous substance list metals, organics, HOS-E PCBs/pesticides, and specific conductance.
	o Soil Samples	Three (3) soil samples will be collected and analyzed for hazardous substance list metals, organics, HOS-E PCBs/pesticides, and specific conductance.
	o Sediment Samples	Two (2) sediment samples will be collected and analyzed for HOS-E PCBs/pesticides and E.P. toxicity.
	o Wastewater Samples	Two (2) wastewater samples will be collected and analyzed for hazardous substance list metals and organics, HOS-E PCBs/pesticides and specific conductance.
6	Drum Material Handling (Contingent Work Item)	Drum auger cuttings from any borehole that indicates a 5 ppm or greater reading on the HNu unit while monitoring gases existing in the borehole or from split spoon samples. Drum all water evacuated from the development of monitoring wells constructed in these boreholes. Centralize drums in a secure area as designated by NYSDEC. Drum composites will be analyzed. Prepare necessary disposal forms and manifests and obtain NYSDEC signatures. Arrange for off-site transportation and disposal of drums.
7	Phase II Report	Prepare final report containing significant Phase I information, additional field data, final HRS scoring and HRS documentation, and site assessments.
8	Project Management	

Concurrent with the site reconnaissance, an air monitoring program will be performed using a photoionization detector. The air monitoring levels will be taken in the zone of breathing, normally 4-6 feet above the ground surface. Several locations along the perimeter and within the site will be monitored to detect the presence of contaminants. Wind direction will be noted at the time of monitoring. In the event that the downwind measurements indicates the presence of a contaminant (relative to the upwind location) notification to the contractor's Health and Safety Officer and the designated NYSDEC representative will be provided. With their concurrence, additional air measurements may be obtained to better delineate the source of the air-bourne contaminant. Additional air measurements will be performed by the field individuals utilizing the appropriate level of respiratory protection as agreed upon by the contractor's Health and Safety Officer and the NYSDEC representative. All future site activities will be performed at the level of personal safety selected based upon the additional air monitoring.

During the initial site reconnaissance, field personnel will adhere to the procedures outlined in the contractor's health and safety manual. A copy of these documents have previously been submitted to NYSDEC. Based on the observations and air monitoring results, the contractor will develop and submit a site specific Health and Safety Plan which will include, at a minimum, Level "D" protection, with Level "C" available as backup. It is anticipated that Level "C" protection will be needed in various drilling and sampling activities. Normal protocol will require stand-by Level "B" equipment during Level "C" activities. Upgrading to Level "B" work will require NYSDEC approval.

## 6.0 TASK 3: GEOPHYSICAL SURVEY

A limited geophysical survey will be performed at the site. The geophysical survey will be conducted around the periphery of the site in an attempt to detect the limits of any fill material, and possible contaminant migration. A limited survey is proposed due to the presence of electrified rails and large amounts of metal obstacles at the site. A terrain conductivity survey will be performed. A preliminary report will be submitted to the NYSDEC before any drilling or sampling is conducted at the site. The raw data generated from the borings and geophysical survey will be submitted to the NYSDEC at the completion of the field investigation.

Terrain conductivity readings will be obtained using a Geonics Model EM-31 terrain conductivity meter. Terrain conductivity data will be plotted on base maps. Final borehole locations are subject to findings of the geophysical survey.

As needed, a brief field survey will be conducted in the surrounding area to document the location of the nearest affected wells or water usage.

## 7.0 TASK 4: TEST BORINGS/MONITORING WELL INSTALLATION

### 7.1 Test Borings

At a minimum, five (5) test borings will be advanced, one (1) upgradient and four (4) downgradient, to a depth of 25 feet below the ground surface unless a major change in lithology is encountered. Based on a field review of the site, tentative locations for the borings have been

selected by NYSDEC. Recommendations for the final locations will be based on the results of the geophysical survey. Final locations will be determined by the contractor in concurrence with NYSDEC upon review of the geophysical data interpretations.

The first boring (GW-1) will be used for stratigraphic background information, while the other borings will help determine if there is contamination from waste disposal activities on site. The final depth of all downgradient (GW-2 through GW-5) wells will be contingent on review of data from the initial boring.

Prior to initiating drilling activities, the drilling rig, augers, rods, appurtenant equipment, well pipe and screens will be steam-cleaned. This cleaning procedure will also be used between each boring. These activities will be performed in a designated on-site cleaning area. Throughout the cleaning processes and during drilling, any unnecessary direct contact between equipment and the ground surface will be avoided by employing support structures and/or plastic sheeting.

Test borings will be advanced with 4" inside diameter (I.D.) hollow stem augers, driven by truck mounted drilling equipment. During the drilling, a photoionization detector will be used to monitor the gases exiting in the borehole. Auger cuttings will be contained if readings from the HNu photoionizer are recorded at 5 ppm or above. Soil samples will be collected using a two-inch outside diameter split-barrel sampler advanced in accordance with the standard penetration test procedure (ASTM D-1586). The split spoon sample barrel(s) will be cleaned prior to each use by the following procedure:

- o initially cleaned of all foreign matter
- o washed with a detergent and water mixture
- o rinsed with potable water
- o washed with acetone or methanol
- o rinsed with distilled water
- o allowed to air dry.

A photoionization detector will be used to monitor the presence of gases from each sample as the split barrel sampler is opened. All samples will be placed in pre-cleaned, Teflon-lined screw cap glass jars. The cleaning of the sample jars will include:

- o soap wash
- o tap water rinse
- o acetone rinse (pesticide grade) or methanol
- o rinse with copious quantities of deionized water (at least six rinsings) until no residual acetone is detected.

Samples will be delivered daily, under chain of custody control, to the appropriate receiving analytical laboratory.

Split spoon samples will be taken every five feet until the water table is reached or unless there is a change in geologic material. If overlying waste material is discovered through visual examination and/or indicated through photoionizer detection, drilling and sampling will cease at that location and NYSDEC will be notified. A change of scope will then be negotiated utilizing contingent funding.

Continuous split spoon sampling will be conducted through the shallow water bearing zone. Geologic classification of split spoon samples will be performed and boring logs maintained by the contractor's geologist.

At a minimum, each boring log will include:

- o date, test hole identification, and project identification
- o name of individual developing the log
- o name of driller and assistant(s)
- o drill make and model, auger size
- o identification of alternative drilling methods used and justification thereof (e.g. rotary drilling with a specific bit type to remove a sand plug from within the hollow stem augers)
- o depths recorded in feet and fractions thereof (tenths or inches), referenced to ground surface
- o standard penetration test (ASTM D-1586) blow counts
- o for samples, the length of the sample interval and the length of the sample recovered
- o the first encountered water table along with the method of determination, referenced to ground surface
- o drilling and borehole characteristics
- o sequential stratigraphic boundaries.

Split spoon samples will be obtained while sampling at five foot intervals or when a change in lithology has occurred. Grain size analyses or Atterberg limits and moisture content analyses will be performed on an average of two (2) selected split spoon samples per borehole with a total of ten (10) at the site. One (1) selected split spoon sample from the

encountered water bearing material will be analyzed for grain size determination. A hydrometer analysis will be performed if the sample is composed of twenty (20) percent or greater of particles which pass a No. 200 sieve. Additional determinations may be performed if the NYSDEC oversight representative so directs. This is anticipated to be a sample-by-sample decision. The selected split spoon samples to be geotechnically evaluated, in addition to all other split spoon samples, will be retained for future reference until disposal is directed by the NYSDEC or the report is accepted as final.

In the event that the borehole/monitoring well must be left unattended prior to completion, the borehole/monitoring well will be properly secured to ensure its integrity.

Level "C" safety protection, with Level "B" available as backup, will be used by personnel involved in the drilling and well installation activities unless otherwise specified in the site specific Health and Safety Plan. On-site contamination may require Level "B" protection during installation of some monitoring wells, subject to NYSDEC approval.

Auger cuttings from boreholes that indicate readings of 5 ppm or greater on the photoionization unit or exhibiting visual contamination, will be contained in 55-gallon drums and the NYSDEC will be notified. Likewise, the groundwater removed during development of wells constructed in these boreholes will be drummed. Once a drum has reached capacity, the top will be securely fastened and the drum will be centralized on-site in an area designated by NYSDEC.

## 7.2 Monitoring Well Installation

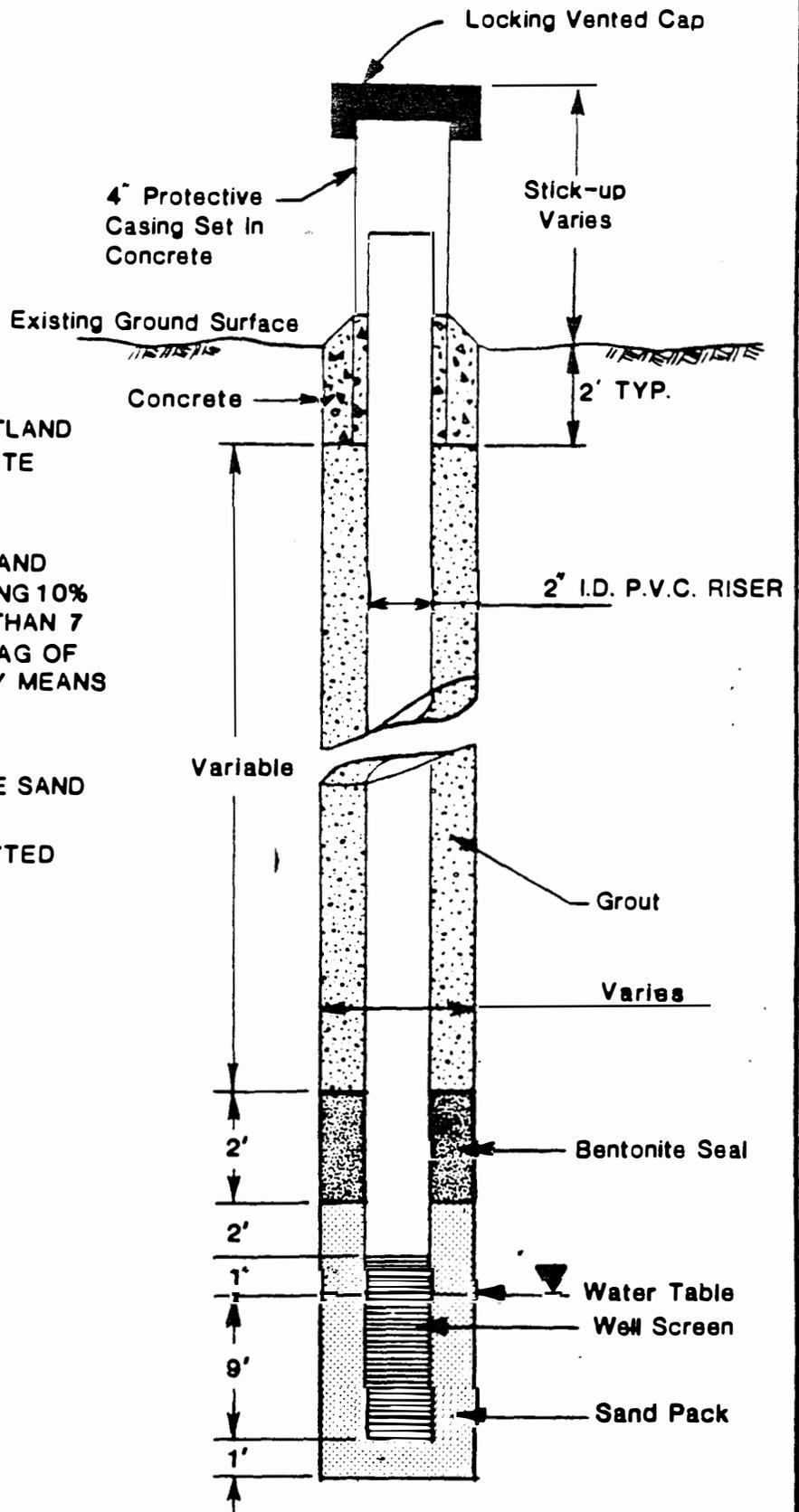
Monitoring wells will be installed at each of the new test boring locations. The upgradient well will be designated as GW-1 and four (4) downgradient wells will be designated as GW-2 through GW-5. The wells will be installed to a depth of approximately 25 feet below ground surface unless a review of the stratigraphy from the test boring GW-1 indicates otherwise. In addition, two of the seven existing wells may need to be replaced should they preclude sampling activities. Wells will be constructed of 10 foot long, 2-inch I.D. threaded flush jointed PVC screen and riser casing. Well screens will be installed with the top of the well screen located approximately one foot above the encountered groundwater table.

NOTE  
 GW-2 location  
 will be replaced as  
 replacement well  
 in STP / 105000 area

All installations will include a washed and graded sand pack surrounding the screen and extending two feet above the screen top. The materials will be placed using a tremie pipe. A two foot thick bentonite seal will be placed above the sand pack and the remaining annulus will be filled with bentonite/grout to within two feet of the ground surface. These materials will also be placed with a tremie pipe. A four to six inch diameter steel protective casing with locking cap will be placed over each well and cemented in place. A typical monitoring well in unconsolidated material is illustrated in Figure 2.

**NOTES:**

- (1) CONCRETE: SAND AND PORTLAND CEMENT MIXTURE OR SAKRETE PREPACKED MIX
- (2) GROUT: MIXTURE OF PORTLAND CEMENT AND BENTONITE USING 10% BENTONITE AND NO MORE THAN 7 GALLONS OF WATER PER BAG OF CEMENT. GROUT PLACED BY MEANS OF TREMIE GROUTING.
- (3) SAND PACK: NO. 4 QUARTZITE SAND
- (4) WELL SCREEN: 2" I.D. SLOTTED P.V.C. (0.01" SLOT)



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METRO-NORTH RAILYARD  
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 PHASE II  
 SITE NO. 360010  
 Project No. 5C280500

TYPICAL MONITORING  
 WELL IN UNCONSOLIDATED  
 MATERIAL  
 A | FIGURE 2

Well development will be performed utilizing pre-cleaned, dedicated PVC bottom discharge bailers or a surface peristaltic pump fitted with pre-cleaned, dedicated polyethylene tubing for each well. Well development will commence no sooner than 24 hours after the well grouting has been completed.

Prior to water and sediment evacuation, the static water level will be recorded at each well using an electric level sounder and engineer's ruler. Also at this time, the well bottom will be measured using a fiberglass tape. All measuring devices will be cleaned prior to and after each use by washing with a detergent and acetone wash, and rinsing with distilled water. The water/sediment volume in the well will also be calculated.

Well development will be supplemented by:

- o Temperature, pH, turbidity, and specific conductance measurements
- o Evacuation volume measurement
- o Visual identification of water clarity and color
- o Visual identification of the physical characteristics of removed sediments

The development process will continue until a turbidity measurement of less than 50 Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU) is obtained. However, in the event that this requirement is not achieved within a time span of four (4) hours, the development process will be discontinued and the NYSDEC representative will be notified. At such time a determination of the next appropriate action will be made.

The well development is designed to correct any clogging of the water-bearing formation which may occur as a side effect of the drilling, and remove any drilling water (if used) from the water table such that each well will yield water which is representative of the in situ conditions. Static water level measurements will also be made following well development, before the drilling rig leaves the site and after the wells have recovered (at least 8 hours after development).

### 7.3 Surveying

A site map will be prepared showing general property lines (where the data exists). Upon completion of well installation activities, the top of the well casings will be surveyed by a licensed surveyor to determine their location and elevation above mean sea level, relative to a benchmark, if available, within 2000 feet. The map will show the location and appropriate elevations (ground surface, top of monitor well casing) for each boring, sampling location, monitor well installation and other key contour points as determined by the contractor.

### 7.4 Permeability Testing

In situ permeability testing of the newly installed monitoring wells will be conducted following their development. Initial static water level measurements will be made in each well followed by the injection of a weighted slug of a specific volume. An instantaneous head displacement associated with the slug volume will be created and the subsequent decline in water level will be measured with an electric water level sounder. Once head conditions reach a static state, the slug will be

removed and a negative head condition will result relative to the initial static water level. The subsequent rise in water level will be measured with an electric water level sounder.

Data analysis will involve the determination of the coefficient of permeability. The analysis will utilize a technique provided by Harry R. Cedergren in Seepage, Drainage and Flow Nets, 2nd Edition, whereby the log of the head ratio (dependent variable) is plotted with respect to elapsed time (independent variable). Data points for the permeability determination are obtained from a linearization of this plot and utilized in an appropriate equation.

The testing will provide data on the permeability of the materials at the top of the water table. These values will subsequently be utilized for determining approximate flow rates within the saturated zone, and extrapolated to approximate permeability in the unsaturated zone as required in scoring under the HRS. This data will be useful in assessing the rate of groundwater flow in this area and/or data input in evaluating potential remedial alternatives, if required.

#### 8.0 TASK 5: SAMPLING AND ANALYSIS (Optional)

Whether the contractor performs the task assignments contained within this section is contingent upon an agreement established with the NYSDEC. Should the NYSDEC select the contractor for the acquisition and analytical testing of samples, the contractor will adhere to the procedures discussed herein. A summary chart of the proposed chemical analysis to be performed on various types of samples is provided in Table 2. The

analytical laboratory which performs the required analyses will be responsible for the disposal of all samples which they analyze. It is anticipated that Level "C" with Level "B" available as backup will be required for all sampling activities. Lagoon sampling will require special arrangements for a boat and boat decontamination.

### 8.1 Groundwater Samples

Following the equilibration of water levels within the five (5) newly installed wells (GW-1 through GW-5), approximately one week, water elevations will be measured to determine the water table surface.

Representative groundwater samples will then be collected after the wells have been fully evacuated or a volume of three times the well contents have been removed.

Evacuation of water from the wells and the acquisition of the samples will be accomplished with an ISCO Model 1580 peristaltic pump, using separate low-density polyethylene tubing for each well and changing the silicon rubber tubing within the ISCO between wells. An exception to this procedure will be employed when obtaining the required volume of sample for volatile organic analyses. This will be accomplished using small volume PVC bailers that have been separately designated for each well.

TABLE 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
 PHASE II INVESTIGATIONS  
 RECOMMENDED CHEMICAL ANALYSES

Site Name and I.D.: Metro-North Railyard #360010

<u>Type of Sample</u>	<u>Class</u>								<u>Remarks</u>	<u>No. of Samples</u>	
	1	2	3	4	5	6	7	8			
Groundwater	X	X							X		12
Surface Water	X	X							X		2
Sediment	X					X					2
Soil	X	X				X				2' composites	3
Air											
Wastewater	X	X							X		2
Leachate											
Drums											
Other											

- 1) Hazardous Substance List organics, volatile and base/neutral/acid fractions, in accordance with Contract Laboratory Protocol (to include PCB's/Pesticides)
- 2) Hazardous Substance List metals in accordance with Contract Laboratory Protocol
- 3) Ammonia
- 4) Dioxin
- 5) Priority Pollutant Polynuclear Aromatic Hydrocarbons (PNAs, Method 8310)
- 6) E.P. Toxicity
- 7) Sulfate
- 8) Specific Conductance

Upon collection of the sample, field pH, temperature and conductivity measurements will be recorded. The samples will be placed in appropriate pre-cleaned bottles/septa vials, labeled, chilled and immediately returned to the appropriate receiving laboratory for preservation and analysis of various chemical parameters. If the samples cannot be returned to the laboratory in a timely fashion due to the distance between the site and the laboratory, field preservation will be performed prior to chilling.

Groundwater samples will be collected from each of the five (5) newly installed monitoring wells and from the seven (7) existing wells as shown on Figure 1. Groundwater samples will be analyzed for hazardous substance list metals and organics according to contract lab protocol (CLP), HOS-E PCBs/pesticides and specific conductance as designated in Table 2.

## 8.2 Surface Water Samples

Surface water samples will be obtained using a pond sampler with separate sampling bottles designated for each sampling location. At the time of sample collection, samples will be analyzed for pH, specific conductance, and temperature. The same procedure as previously described for groundwater will be followed after acquisition of the surface water sample. Surface water samples will be collected at two (2) locations (SW1 and SW1A) from the lagoon as shown in Figure 1. Each sample will be analyzed for hazardous substance list metals and organics according to Contract Laboratory Protocol, HOS-E PCBs/pesticides and specific conductance as designated in Table 2. Additional surface water samples will be

collected and analyzed should standing water having an oil sheen be observed while sampling. This activity will be performed only with NYSDEC approval.

### 8.3 Sediment Samples

Sediment samples will be collected from two locations (SW1-SW1A) as shown on Figure 1. The sediment samples will be obtained using a tube capture device. The sediment samples will be analyzed for hazardous substance list organics according to Contract Lab Protocol, EP toxicity, and HOS-E PCBs/pesticides as listed in Table 2.

### 8.4 Wastewater Samples

Two (2) wastewater samples, one from the influent to the treatment plant (ST-1) and one from the pump station manhole (PS-1), will be collected from the locations as shown on Figure 1. Each sample will be analyzed for hazardous substance list metals and organics according to Contract Lab Protocol, HOS-E PCBs/pesticides, and specific conductance as listed in Table 2.

### 8.5 Soil Samples

A total of three (3) soil samples will be collected using a hand auger and analyzed for HOS-E PCBs/pesticides, hazardous substance list organics according to Contract Laboratory Protocol and EP toxicity. Each sample will be representative of the 0 to 2 foot depth interval of the soil column. Sample SS-1 will be collected from the drum disposal area; sample SS-2 will be collected from Osborne Pond. The third sample (SS-3)

will be collected north of the disposal area and will be utilized for background information.

9.0 TASK 6: DRUM MATERIAL/HANDLING (Contingent Work Item)

This task will only be conducted if there is drumming of material at the site. Should air monitoring data collected while advancing a borehole indicate readings of 5 ppm or greater on the photoionization unit, or if visual contamination is evident, or if directed by the NYSDEC, all auger cuttings and subsequent well development water will be handled as described below. It is anticipated that extensive drumming will be needed at this site.

All auger cuttings and groundwater from well development and purging prior to sampling will be placed into 17-H steel drums. These drums will be individually labeled with a permanent marker detailing the site, date, boring number, and contents. Efforts will be made to keep solids and aqueous material in separate drums.

At each site, the driller, under the direction of the contractor, will centralize all the drums in an on-site area designated by NYSDEC.

A single composite sample of soil will be made for each set of ten (10) or less drums containing auger cuttings. This composite will be analyzed for the USEPA hazardous waste disposal criteria and the NYS land burial certification procedures at a minimum. The same tests will be performed on groundwater samples collected from the aqueous drums. Analytical requirements will be dictated by the contaminants present on-site, the method of disposal, and the receiving facility's acceptance criteria.

Once all the analytical data from the site has been received, the contractor will combine this with the disposal analyses and put out to bid the transportation and disposal of all the drummed waste. The lowest responsible bidder will be retained by the NYSDEC to establish a contract.

The contractor will complete the appropriate disposal forms and manifests and forward them to the state for review and signature. The contractor will not accept any responsibility nor be considered the generator of any waste material. It is assumed that the NYSDEC, as the generator, will provide to the contractor the appropriate information to complete the appropriate disposal forms and manifests.

#### 10.0 TASK 7: PHASE II REPORT PREPARATION

Upon completion of all field related activities and receipt of all required analytical and geotechnical testing, a draft Phase II report will be prepared for submission to the NYSDEC. This report will be prepared in accordance with applicable NYSDEC requirements concerning the format of the Phase II report. Four (4) copies of the draft Phase II report will be submitted for review and comments.

The object of the report will be to characterize, on a preliminary basis, the physical and chemical nature of the site and perform a final application of the Hazard Ranking System. The Phase II report will be prepared with the intent of providing NYSDEC with the necessary data to evaluate the significance of any environmental threat (in accordance with the generic workplans).

Upon receipt of comments by NYSDEC, the contractor will prepare one (1) proof copy of the final Phase II report for final approval. After final approval, fifteen (15) copies of this report will be provided to NYSDEC. One (1) copy of the CLP documents will be submitted with the draft report for each site, assuming that the contractor performs the required analytical testing.

#### 11.0 TASK 8: PROJECT MANAGEMENT

In order to cost-effectively meet the technical objectives of the proposed scope of services, specific work tasks and subtasks have been developed. Key project personnel have assigned responsibilities for each of these efforts, thus permitting a concerted mechanism for planning, scheduling, monitoring and direction of all activities associated with Phase II investigations. The project team has been formulated to meet project schedules, provide services and products of high professional standards, perform all work within budget and efficiently communicate project status to NYSDEC. Resumes of the professional members of the project team will be submitted to the NYSDEC for review.

With each task clearly defined with respect to scope, budget and schedule, the Project Manager and key project personnel will track each element of project development on a weekly basis. As necessary, scope of work and scheduling modifications can be implemented so as to most cost-effectively meet the established objectives. This is accomplished by immediately notifying NYSDEC of any problems, any existing or anticipated deviations from planned costs, schedule and/or quality, and indicate what actions are being taken or recommendations being made to correct the

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situation. This notification will be made initially by telephone and later confirmed in writing.

Monthly progress reports will be submitted to NYSDEC by the 10th day of each month for activities which took place during the preceding month. The format for these reports will be as the monthly progress report, which will be submitted later in a management plan. This monthly report will describe any problems encountered and any existing or anticipated deviations from planned costs, schedule or quality, recognizing cause, corrective measures, preventive measures, and impact on cost, schedule and quality. Also included will be a description of major activities to be accomplished for the next project work month.