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REMEDIAL DESIGN WORK PLAN

For the:

Former Halstead Quinn / ATI Tank Farm
City of Yonkers, Westchester County, New York
BCP Number C360090
Bond Act Number B-00193

Submitted by:

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EXECUTIVE SUMMARY

The Remedial Design Work Plan (RDWP) presents the activities and procedures proposed to be conducted in the development of a construction design and work plan for the remedial alternative selected by the New York State Department of Environmental Conservation (NYSDEC) to address known soil impacts at the Former Halstead Quinn/ATI Tank Farm (herein referred to as the Site) located in the City of Yonkers, Westchester County, New York. The Site has been designated as Brownfield Cleanup Program (BCP) Site Number C360090 and Bond Act Number B-00193.

The remedy to be implemented at the Site is detailed in a document entitled "Environmental Restoration Record of Decision (ROD), Former Halstead Quinn/ATI Tank Farm Site, Yonkers, Westchester County, New York, Site Number B-00193" prepared by the NYSDEC Division of Environmental Remediation, dated March 2006. Paulus, Sokolowski & Sartor (PS&S) has been retained by CFS-ATI LLC (CFS) to prepare this Remedial Design Work Plan (RDWP) and complete the design of the selected remedial alternative.

The selected remedial alternative, as detailed in the March 2006 ROD, includes the following components:

- Excavation and off-site disposal or beneficial reuse (e.g., incorporation into asphalt paving products) of grossly contaminated vadose zone soils;
- Backfill with clean soil to return the site to pre-remediation grade;
- A remedial design program to provide the details necessary to implement the remedial program;
- Isolation of the remaining contamination by covering all vegetated areas with two feet of clean soil and all non-vegetated area with either concrete or a paving system;
- Development of a Site Management Plan (SMP) to address residual contamination and any use restrictions;
- Imposition of an environmental easement; and
- Periodic certification of the institutional and engineering controls.

Details of the various aspects of the components of the selected remedial alternative are presented in the text of this RDWP.

The Former Halstead Quinn/ATI Tank Farm is located on the eastern bank of the Hudson River in the City of Yonkers, Westchester County, New York. The site has the street address of 79–91 Alexander Street and is situated southwest of the intersection of Alexander Street and Ashburton Avenue (Figure 1). The 2.8 acre property is bordered by the former Sun Chemical West Site to the north (currently occupied by the Westchester County Department of Social Services); Alexander Street to the east, industrial properties to the south and the Hudson River to the west.

Soil and groundwater samples were collected during investigations conducted from October 2004 to August 2005 to characterize the nature and extent of contamination. The main categories of contaminants that exceed their standards, criteria, and guidance values (SCGs) are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and inorganics (metals). According to the March 2006 ROD, the VOC of concern is benzene; the SVOCs of concern are benzo(a)anthracene, benzo(a)pyrene, and dibenz(a,h)anthracene; and the metal of concern is mercury.

The approach for the design of the remedy has been selected to promote its timely and efficient implementation. The Remedial Design Report (RDR) for the remedial activities will be submitted to the NYSDEC in draft form. The Draft RDR will be utilized to procure a Remediation Contractor to implement the remedy.

CFS will work in conjunction with the Remediation Contractor to complete the design of the remedy. Once completed, a draft of the Final RDR will be submitted to the NYSDEC. Comments from the review of the Draft Final RDR will be incorporated into the report and the design finalized. The final remedial design will be issued to the NYSDEC in a Final Remedial Design Report. This approach to the remedial design is detailed in Section 2.0 of this RDWP.

A schedule for the submission of the remedial design documents as well as the implementation of the remedy is included in Section 8.0 of this RDWP. Commencement of the construction activities will proceed in a timely manner after receipt of NYSDEC approval of the Final RDR and following the prescribed public notice period. The anticipated steps for the major remedial activities include excavation of grossly contaminated vadose zone soils, installation of a temporary environmental cap pending development of the Site, and installation of final engineering controls in conjunction with Site building construction.

1.0 INTRODUCTION

The Remedial Design Work Plan (RDWP) presents the activities and procedures proposed to be conducted in the development of a construction design and work plan for the selected remedial alternative for the Former Halstead Quinn/ATI Tank Farm Site (herein referred to as the Site) located in the City of Yonkers, Westchester County, New York. The Site has been shown to have soil and groundwater impacts and designated as Brownfield Cleanup Program (BCP) Site Number C360090 and Bond Act Number B-00193. The remedy to be implemented is presented in a document entitled "Environmental Restoration Record of Decision (ROD), Former Halstead Quinn/ATI Tank Farm Site, Yonkers, Westchester County, New York, Site Number B-00193" prepared by the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation, dated March 2006. Paulus, Sokolowski & Sartor (PS&S) has been retained by CFS-ATI LLC (CFS) to prepare this Remedial Design Work Plan (RDWP) and complete the design of the selected remedial alternative.

1.1 Remedial Design Work Plan Objectives

The objectives of this RDWP include:

- To present the documents to be submitted to the NYSDEC for approval of the design of the remedy;
- To provide a preliminary discussion of the remedial technologies to be used to implement the remedy;
- To identify the project plans (Quality Assurance Project Plan, Health and Safety Plan) that will be used during the implementation of the remedy; and
- To provide a schedule for the design and implementation of the selected remedial alternative.

1.2 Site Description and History

The Site is located on the eastern bank of the Hudson River in the City of Yonkers, Westchester County, New York. The Site has the street address of 79–91 Alexander Street and is situated southwest of the intersection of Alexander Street and Ashburton Avenue. The location of the Site is depicted on Figure 1. The 2.8 acre property is bordered by the former Sun Chemical West Site to the north (currently occupied by the Westchester County Department of Social Services); Alexander Street to the east, industrial properties to the south and the Hudson River to the west.

This section of the Hudson River was filled between 1886 and 1898 to create the area of the Site and adjacent properties. During the subsequent years, the Site was occupied by a lumber company, an elevator company, a fuel company and a coal and wood company.

In 1951, Standard Oil acquired the property for use as a tank farm. Standard Oil installed nine aboveground storage tanks (ASTs) in the early 1950s. In 1978, the property was sold to A. Tarricone Incorporated (ATI). ATI installed two (2) 1.1 million gallon ASTs in 1983. The total of 11 ASTs had a combined capacity of approximately five million gallons of unleaded gasoline, diesel, and fuel oil. Between 1995 and 2001, ATI sold the Site or the name changed to Halstead-Quinn Propane, Inc. Halstead-Quinn declared bankruptcy in 2001, and the Site was transferred to Yonkers Alexander Street Redevelopment, Inc. (YASR). Under NYSDEC supervision, YASR directed the demolition and removal of the known tanks on-site. CFS purchased the site from YASR in 2007 and will conduct subsurface remediation and site redevelopment under the NYSDEC Brownfield Cleanup Program (BCP).

1.2.1 Remedial History

According to review of the March 2006 ROD, spills are known to have occurred in 1989 and 1998. Other unreported spills may have occurred during the use of the Site as a Major Oil Storage Facility (MOSF).

The 1989 spill is reported to have resulted in the recovery of 4,000 gallons of #6 fuel oil, which was pumped back into tanks, and an additional 1,000 gallons of contaminated product which was placed into drums for disposal. Due to the consistency of #6 fuel oil and low February temperatures, the majority of the spilled product was able to be recovered.

The 1998 spill is reported to have been the result of a leak in a #2 fuel oil pipe. Over the next six months, a Scavenger Oil Recovery System, utilizing three foot diameter recovery wells, captured 8,575 gallons of the estimated 10,372 gallon spill.

1.2.2 Assessment/Investigation Activities

In September 2001, a Phase I Environmental Assessment Report was prepared for YASR by SCS Engineers, P.C. (SCS). Additionally, SCS prepared a Site Screening Investigation Report in September 2001.

Henningson, Durham & Richardson (HDR) prepared a report entitled "Final Remedial Site Investigation/Remedial Alternatives Report (SI/RAR), Former Halstead Quinn Major Oil Storage Terminal Facility" in October 2005 for YASR (HDR, 2005). The site investigation (SI) was conducted to define the nature and extent of potential contamination results from the former uses of the Site. The SI activities included:

- Research of historical information;

- Demolition and removal of all AST located on the Site (15 total);
- Survey of the three remaining buildings for the presence of asbestos containing materials and lead based paint;
- Collection of 15 surface soil samples;
- Continuous subsurface soil sampling at 22 boring locations;
- Installation of one permanent monitoring well;
- Sampling of three monitoring wells;
- Collection of discrete groundwater samples at nine locations; and
- Collection of a water sample from the on-site oil/water separator.

The data obtained from the SI was compared to Standards, Criteria and Guidelines (SCGs) specified by the NYSDEC to determine if soil and/or groundwater contamination existed at levels of concern. Based on this comparison, certain media and areas of the Site were determined to require remediation.

NYSDEC issued a Proposed Remedial Action Plan (PRAP) (NYSDEC, 2006) that identified and discussed the preferred remedy and summarized other alternatives considered. NYSDEC selected a final remedy after consideration of comments received during the public comment period.

NYSDEC issued the March 2006 ROD that presented the final selected remedy for the Former Halstead Quinn/ATI Tank Farm. The decision was based on the Administrative Record of the NYSDEC and the public's input following the PRAP.

1.2.3 Nature and Extent of Contamination

Soil and groundwater samples were collected to characterize the nature and extent of contamination, as described in the SI/RAR document (HDR, 2005). Table 1, attached to this RDWP, summarizes the nature and extent of the contamination detected during the previous site investigations. The categories of contaminants that are present at the Site at concentrations in excess of their applicable SCGs are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and inorganics (metals). As stated in the March 2006 ROD, the VOC of concern is benzene; the SVOCs of concern are benzo(a)anthracene, benzo(a)pyrene, and dibenz(a,h)anthracene; and the metal of concern is mercury.

Laboratory analysis of surface soil samples, collected at a depth of two inches below grade surface (bgs), noted that six individual SVOCs exceeded SCGs. Concentrations of benzo(a)anthracene exceeded the SCG for soils of 0.224 parts-per-million (ppm) at seven locations, with a maximum concentration of 3.5 ppm. Concentrations of benzo(a)pyrene exceeded the SCG for soils of 0.061 ppm at eight locations, with a maximum of 14 ppm.

Concentrations of contaminants in surface soils exceeded SCGs for three metals (i.e., cadmium, chromium, and mercury). The metal contaminant with the greatest number of SCG exceedances is mercury. Mercury exceeded the SCG of 0.1 ppm at twelve (12) locations, with a maximum concentration of 2 ppm.

Six VOCs were detected at concentrations in excess of SCGs in subsurface soils at the Site. Concentrations of benzene exceeded the SCG of 0.06 ppm at two locations, with a maximum concentration of 32 ppm.

13 SVOCs were detected at concentrations in excess of SCGs in subsurface soils at the Site. Concentrations of benzo(a)anthracene exceeded the SCG of 0.224 ppm at 12 locations, with a maximum concentration of 20 ppm. Concentrations of benzo(a)pyrene exceeded the SCG of 0.061 ppm at 22 locations, with a maximum concentration of 18 ppm. Concentrations of dibenz(a,h)anthracene exceeded the SCG of 0.014 ppm at two locations, with a maximum concentration of 3.4 ppm

Subsurface soils exceeded SCGs for seven metals. Concentrations of mercury exceeded the SCG for soils of 0.1 ppm at 18 of the 28 locations sampled with a maximum concentration of 37.8 ppm.

A total of 19 groundwater samples were collected from the Site during the investigation activities. Nine groundwater samples were submitted for both filtered and unfiltered metals analysis.

Three VOCs were detected at concentrations in excess of SCGs in groundwater at one or more locations. Benzene was not detected in the groundwater samples above SCGs.

Four SVOCs were detected at concentrations in excess of SCGs in groundwater. Benzo(a)anthracene was found in GW-6 and MW-6 at a maximum concentration of 2.1 parts-per-billion (ppb), which is above the SCG for that compound of 0.002 ppb.

Seven metals were detected at concentrations in excess of SCGs in groundwater. Mercury exceeded the SCG of 0.7 ppb in 11 wells with a maximum concentration

of 710 ppb in an unfiltered sample. One filtered sample, obtained from GW-12, analyzed for mercury, exceeded the SCG of 0.7 ppb, with a concentration of 0.83 ppb.

Based on this data and similar results from the other metals detected in groundwater, NYSDEC stated in the March 2006 ROD that the unfiltered detections are due to turbidity in the groundwater samples and the unfiltered results do not appear to be representative of the mobile contaminant concentrations. None of the contaminants were at concentrations great enough to warrant a groundwater remedy or suspect impact to the Hudson River.

1.2.4 Remedial Action Objectives

The remediation goals for the Site are to eliminate or reduce, to the extent practicable, the release of contaminants from:

- Soil into groundwater that may create exceedances of groundwater quality standards;
- Surface soil and subsurface soil into surface water through groundwater transport or surface runoff; and
- Groundwater and subsurface soil into soil vapor through subsurface vapor transport.

In addition, the remediation goals for the Site include attaining, to the extent practicable:

- Ambient groundwater quality standards; and
- Soil cleanup SCGs.

1.2.5 Selected Remedy

Based on the Administrative Record documented in the March 2006 ROD and the discussion presented below, the NYSDEC selected remedy was Alternative 3, Clean Soil Cover after Removal of Grossly Contaminated Soils. The selected remedy is based on the results of the SI and the evaluation of alternatives presented in the RAR (HDR, 2005).

The elements of the remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

2. The excavation and off-site disposal or beneficial reuse of grossly contaminated vadose zone soils. All soils within the areas delineated during the investigation activities will be excavated down to the water table (approximately 7.5 feet). Concrete pads which are located below some of the former above ground storage tanks would also be removed as they are within the disposal area and are located above the water table.

3. Areas where soils are removed will be returned to original grade with clean soils. Clean soil would constitute soil with no analytes in exceedance of NYSDEC, Technical and Administrative Guidance Memorandum (TAGM) 4046 soil cleanup objectives or local site background as determined by the procedure in NYSDEC DER-10 Technical Guidance.

4. A soil cover will be constructed over all vegetated areas to prevent exposure to contaminated soils. The two foot thick cover will consist of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the subsurface soil. The top six inches of soil would be of sufficient quality to support vegetation. Clean soil would constitute soil with no analytes in exceedance of NYSDEC TAGM 4046 soil cleanup objectives or local site background as determined by the procedure in NYSDEC DER-10 Technical Guidance. Non-vegetated areas (buildings, roadways, parking lots, etc) will be covered by a paving system or concrete at least 6 inches in thickness.

5. Development of a Site Management Plan to: (a) address residual contaminated soils that may be excavated from the Site during future redevelopment. The plan would require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) require that any future buildings on the Site be installed with a sub-slab depressurization system to address the potential for vapor intrusion impacts; (c) identify any use restrictions; and (d) provide for the maintenance of the components of the remedy.

6. Imposition of an institutional control in the form of an environmental easement that will (a) require compliance with the approved site management plan; (b) limit the use and development of the property to restricted residential use, which will also permit commercial or industrial

uses; (c) restrict the use of groundwater as a source of potable water, without necessary water quality treatment as determined by NYSDOH; and (d) require the property owner to complete and submit to the NYSDEC a periodic certification.

7. The property owner will provide periodic certification, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that institutional controls and engineering controls, allow the NYSDEC access to the Site, are still in place, and that nothing has occurred that will 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.

1.3 Remedial Design Work Plan Organization

This RDWP is organized as follows:

- Section 1.0 – INTRODUCTION: This section provides a brief description of the location of the Site, the historical operations performed on the Site, the results of the investigations conducted at the Site and a summary of the remedy selected to address the known contamination.

- Section 2.0 – REMEDIAL DESIGN APPROACH: This section of the RDWP summarizes the proposed approach to the design of the remedy to be performed.

- Section 3.0 – REMEDIAL DESIGN ACTIVITIES – This section summarizes remedial technologies and remedial actions that will be utilized to implement the selected remedy.

- Section 4.0 – IDENTIFICATION FEDERAL AND STATE PERMITS REQUIRED FOR REMEDIATION: This section of the RDWP summarizes the permits that will be necessary to implement the remedy described in the March 2006 ROD and this RDWP.

- Section 5.0 – CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN: This section references the Construction Quality Assurance Project Plan to be developed to ensure the integrity and quality of the data to be generated during the implementation of the remedy.

- Section 6.0 – HEALTH AND SAFETY PLAN: This section references the health and safety measures to be taken in order to ensure worker safety during the implementation of the remedy.

- Section 7.0 – OPERATIONS, MAINTENANCE AND MONITORING (OM&M) PLAN OUTLINE: This section presents an outline of the OM&M Plan to be developed to detail the methods to be utilized to operate and maintain the engineering controls to be installed at the Site and to monitor the Site upon completion of the construction of the remedy.

- Section 8.0 – DRAFT COMPREHENSIVE REMEDIAL DESIGN SCHEDULE: This section of this RDWP presents the significant milestones associated with the design tasks from preparation of this RDWP through design implementation and completion of the remedy.

- Section 9.0 – REFERENCES: This section documents the references utilized to generate the RDWP.

2.0 REMEDIAL DESIGN APPROACH

This section presents the proposed approach to the remedial design process that will be implemented for the Former Halstead Quinn/ATI Tank Farm. The design process is divided into two distinct phases (i.e.; Draft Remedial Design and the Final Remedial Design Report) and the implementation of the remedy. These design phases are detailed in the following subsections of this RDWP.

2.1 Draft Remedial Design Report

The initial design submittal to the NYSDEC will be a Draft Remedial Design Report. This design submittal will contain draft versions of the remedial construction approach, engineering drawings, and technical specifications. At this design stage, several aspects of the design package will be conceptual in nature and input from a Remediation Contractor will be required to finalize the design during the preparation of the Final Remedial Design Report.

Key aspects of the design that will be discussed in the Draft Remedial Design Report will include the approximate area and volume of soil excavation, soil excavation and disposition guidelines, the installation of clean soil and fill, and design detail sections for the final capping and sub-slab venting systems. Additionally the submittal will include the proposed sequencing of the implementation of the remedy including remedial excavation, backfilling, temporary interim cap installation, final cap installation, and the incorporation of a sub-slab depressurization system(s) underneath all future site buildings. A temporary interim cap would be employed if the plans for site development have not been finalized and final capping with paving, building cover and landscaping, which are integral to the redevelopment construction, cannot be installed when the remedial soil excavation and backfilling are completed. CFS proposes this approach to continue to move the Site through the remedial design process and to implement the contamination removal elements of the remedy in parallel with finalizing the site development plans and avoiding delays in the site remediation. Design elements that require input from a Remedial Contractor will be discussed as conceptual designs and will include sequencing of the remedial excavation, construction staging, shoring design, excavation means and methods and truck routing.

PS&S proposes to meet with the NYSDEC to discuss the components of the Draft Remedial Design Report during the review period. NYSDEC comments will be addressed in a response letter and incorporated into the next submittal.

2.2 Remediation Contractor Procurement

The Draft Remedial Design Report will be utilized to procure a Remediation Contractor(s) for the implementation of the remedial activities. After the selected Remediation Contractor(s) are procured, the balance of the remedial design will be

completed. In conjunction with PS&S, the selected Remediation Contractor(s) will formulate the final design plans for the construction of the remedy.

2.3 Final Remedial Design Report

The Final Remedial Design Report will be signed and sealed/stamped by a professional engineer licensed in the State of New York. The Final Remedial Design Report for the remedial phases will include the following:

- The final engineering plans, documents, drawings and specifications;
- An outline of the Operations, Maintenance and Monitoring (OM&M) Plan for activities to be performed after the completion of the remedial construction activities;
- An estimate of construction costs for the implementation of the remedial construction activities;
- A schedule for completion of the remedial construction activities, OM&M and post-construction monitoring; and
- Design submittals prepared in conjunction with the Remedial Contractor for the implementation of the remedy.

Immediately after the NYSDEC review and approval of the Final Remedial Design Report, the Draft Pre-Construction Notice and Fact Sheet will be submitted to NYSDEC for review and approval. The Final Pre-Construction Notice and Fact Sheet will then be transmitted as a public notice. Commencement of the construction activities may proceed ten days after the transmittal of the public notice.

3.0 REMEDIAL DESIGN ACTIVITIES

The following sections of this RDWP discuss the remedial technologies and remedial activities to implement the selected remedy as described in the March 2006 ROD and Section 1.2.6 of this RDWP.

3.1 Utility Survey

The Remedial Contractor will conduct a utility survey prior to the remedial excavation activities. All utilities on the Site and adjacent to the Site will be located and identified. The Remedial Contractor will coordinate with the entity controlling identified utilities regarding the proper methods for disconnecting utilities on the Site. Subsurface utilities will be disconnected and capped at the Site perimeter. Overhead utilities will be disconnected at the Site perimeter and removed from the Site.

3.2 Air Monitoring

During implementation of the remedial program, a Community Air Monitoring Program (CAMP) will be implemented. The CAMP will conform to the guidelines presented by the New York State Department of Health in Appendix 1A of the Draft New York State Department of Conservation DER-10 Technical Guidance for Site Investigation and Remediation. During the remedial excavation activities, air monitoring will be conducted using a combination of real-time (continuous) air monitoring at fixed locations and walk-around perimeter and work zone monitoring using hand held instruments.

Additional CAMP monitoring will be conducted during periods of intrusive site work. Monitoring will consist of properly calibrated photoionization detectors (PIDs) and dust meters at a minimum of two locations on the Site (i.e., upwind and downwind). Monitoring will be conducted in accordance with the above referenced DER-10 guidelines.

Community air monitoring technologies and processes will be evaluated during the design process. The selected processes/technologies will be incorporated into the remedial design package to be submitted to, and approved by, the NYSDEC.

3.3 Odor Control/Vapor Management

Odor control and vapor management technologies and processes (e.g., foam suppressants and application units) will be evaluated to mitigate or eliminate potential odors during excavation activities. The selected processes/technologies will be incorporated into the remedial design package to be submitted to, and approved by, the NYSDEC.

3.4 Excavation and Shoring

The excavation activities to be performed as part of the remedy consist of the excavation of grossly-contaminated vadose zone soils to an average depth of approximately 7.5 feet bgs (i.e., the approximate depth of the water table). The area of grossly-contaminated soil is depicted on Figure 1.

In order to facilitate excavation activities and to ensure a safe working environment, a shoring system will be designed to support the excavation sidewalls. Based on property constraints (i.e., proximity to a driveway, roadway, bulkhead), it may not be feasible to "step or slope back" the northern, eastern and western limits of the excavation. A shoring system will be designed to support the excavation sidewalls and to mitigate any adverse impacts (i.e., structural instability, settlement, movement, etc.) to off-site areas.

Additional shallow excavation will be completed in proposed vegetated areas outside the area of grossly-contaminated soil. The top six-inches of soil will be removed in the proposed vegetated area.

3.5 Concrete Pad Removal

Concrete pads associated with the foundation systems of the former ASTs within the soil excavation area will be removed and demolished. Demolished concrete will either be segregated from the impacted soils for off-site disposal or processed to sizes acceptable by the off-site soil disposal facilities for inclusion into the soils disposal process.

3.6 Environmental Cap

The March 2006 ROD directs that the Site will covered by an environmental cap following the remedial excavation. Final approvals for site development are expected at some time after implementation of the remedial excavation and backfilling. As such, to satisfy the requirements of the March 2006 ROD, a temporary interim environmental cap will be constructed at the Site. Excavated areas will be replaced with approved backfill materials as discussed in Section 3.8.1. After backfilling is completed, the entire site will be temporarily capped with asphalt cover to facilitate the site usage for equipment storage. Public access to the Site will be restricted by a perimeter fence and lockable gate.

After CFS obtains approvals for building construction, a final environmental cap will be designed and installed, as part of the site development, according to the requirement of the March 2006 ROD. The permanent environmental cap will consist of a combination of either two feet of clean soil cover over vegetated areas and paving systems of at least six inches in thickness over non-vegetated areas. The two foot thick soil cover will be underlain by a liner such as orange plastic snow fence to demarcate the cover soil from

the subsurface soil. The top six inches of soil will be of sufficient quality to support vegetation.
Non-vegetated areas (buildings, roadways, parking lots, etc) would be covered by a paving system or concrete at least 6 inches in thickness. A sub-slab depressurization system will be installed during the construction of all new Site buildings. Design detail sections for the proposed final capping and sub-slab depressurization system will be included in the RDR for NYSDEC review and approval.

Clean soil for the environmental cap is defined in Section 3.8.1. Post-remedial excavations for utilities or other subsurface instructions will be implemented according to the Operations, Maintenance, and Monitoring (OM&M) Plan as identified in Section 3.9.

3.7 Soil Vapor Management

After completion of the remedial activities, limited contaminated material will remain in-place. To address concerns regarding potential intrusion of soil vapor into future buildings, a component of the selected remedy will be the design of sub-slab depressurization systems under any newly constructed, occupied structures. An appropriate soil vapor management system will be designed when structural features of the proposed development are determined.

3.8 Materials Management

3.8.1 Approved Backfill Materials

At the request of YASR, the NYSDEC evaluated the beneficial reuse of a 20,000 cubic yard soil pile located at the City of Yonkers waterfront properties, Parcels H and I, as backfill for the Site. Parcels H & I, identified on the City of Yonkers Tax Maps as Block 640, Lots 1, 25 and 38 and Block 643, Lots 1, 24 and 40, are located approximately one mile south of the Site at the end of Water Grant Street. The NYSDEC conditionally approved the request for the beneficial reuse of the soil pile on Parcels H & I via a letter to YASR dated June 2006. A copy of this letter is included in Appendix A. The conditions of the approval are as follows:

- The Parcels H & I soils cannot be used in the top two feet of cover at the Site in vegetated areas.
- Trucks transporting this soil from Parcels H & I must be securely covered during transit.
- The new owner of the Site must be willing to accept the use of this soil as fill.

- Any excess soil remaining on Parcels H & I must be properly disposed of in accordance with 6 NYCRR Part 360.

With regard to the third condition, CFS has accepted the use of the Parcels H & I soil for use as fill on the Site.

With the exception of the soils imported to the Site from the H and I Waterfront Properties, all fill material delivered to the Site shall be accompanied by documentation stating the fill is certified "clean" from a virgin source or a blend of soils originating from virgin sources not subject to manufacturing operations and free of contaminants

For all backfill brought on-site, the Remediation Contractor will be required to collect representative confirmatory samples from each of the off-site sources of soil backfill material. The sampling of the material shall be at a rate of one (1) sample per every 5,000 cubic yards of material brought on-site. The samples will be analyzed at a New York State Department of Health (NYSDOH)-certified Environmental Laboratory Accreditation Program (ELAP)-approved laboratory for total PAHs and total volatile organic compounds (VOCs). In addition, ten (10) percent of the samples collected will be analyzed for Target Analyte List (TAL) parameters and polychlorinated biphenyls (PCBs). Only backfill material containing less than 500 ppm total PAHs and 10 ppm total VOCs will be used for subsurface backfill.

Specific truck transport routes for the delivery and disposal of materials will be established during the design phase of the project in conjunction with the Remediation Contractor(s). Proposed routes will be discussed with local officials in order to minimize impacts to local roadways.

3.8.2 Remediation Derived Wastes

All remediation-derived wastes will be properly managed, characterized and disposed of at off-site disposal facilities permitted and licensed to accept the various types of waste. Anticipated waste streams include petroleum-impacted soil, petroleum-impacted concrete, and construction and demolition (C&D) debris. Petroleum-impacted materials should be properly transported off-site to recycling facilities for beneficial reuse under 6NYCRR part 360-1.15. Unprocessed concrete may be transported and disposed as unregulated material under 6 NYCRR Part 360, if classified as uncontaminated based on professional judgment (visual and olfactory methods) or analytical screening.

3.9 Operations, Maintenance and Monitoring Plan

An Operations, Maintenance, and Monitoring (OM&M) Plan will be developed in accordance with the NYSDEC DRAFT DER-10, and will include activities which will take place after the remedial construction is complete. An outline is included in Section 7.0 of this RDWP.

3.10 Engineering and Institutional Controls

Engineering and Institutional Controls will be implemented as part of the selected remedy to protect human health and the environment from impacted soil that will remain in-place with the subsurface at the Site. Engineering Controls are intended to eliminate contact with constituents and control potential vapor intrusion into future site structures. The Engineering Controls, as detailed in the March 2006 ROD, include the construction of a site-wide environmental cap (i.e., soil cap or impervious coverage (concrete or a paving system)) and the installation of sub-slab soil vapor management systems (sub-slab depressurization systems) under any new occupied-buildings.

Various institutional controls will include the assignment of an environmental easement to the Site as well as the development of and compliance with an approved Site Management Plan. Other institutional controls will include, but are not limited to:

- Administrative measures, such as, limiting usage and development of the property to "restricted-residential use" (as defined in 6 NYCRR PART 375-1.8(g)(2)(ii)) while also permitting commercial or industrial uses;

- Restricting groundwater use as a source of potable water without necessary water quality treatment as determined by NYSDOH; and

- Requiring the property owner to complete and submit to the NYSDEC a periodic certification, signed and stamped by a Professional Engineer licensed in the State of New York, or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that institutional controls and engineering controls, allow the NYSDEC access to the Site, are still in place, and that nothing has occurred that will 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. The frequency of the monitoring and the certifications will be discussed and established with the NYSDEC and included in the OM&M Plan.

4.0 IDENTIFICATION OF PROPERTY ACCESS AND FEDERAL AND STATE PERMITS REQUIRED FOR REMEDIATION

This section of the RDWP describes the property access agreements as well as the federal, state and local permits required for the implementation of the final remedy.

4.1 Property Access Agreements

CFS owns the property. No access agreements have been identified as being required for the remedial action.

4.2 Federal, State and Local Permits

In accordance with 6 NYCRR 375-1, NYSDEC-issued permits are not required for the remedy implementation. Rather, the remedial measures are evaluated and implemented based on the substantive elements of the applicable and relevant and appropriate state environmental laws and regulations. No federal or state permits are anticipated to be required for the remedial activities. As per 6 NYCRR 375-1.7c, no permits, consents, approvals or other authorizations are required under any local zoning, land use or other regulatory program. However, consultation with local officials and other stakeholders will occur prior to completion of the final design.

5.0 CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN

A Generic Construction Quality Assurance Project Plan (CQAPP) will be developed to address quality control/quality assurance (QA/QC) issues and ensure the integrity of data obtained during the remedial activities. The CQAPP will be based on projected construction and sample collection activities to be performed for soil transportation and disposal. The Generic CQAPP will be revised during the design process to reflect construction related items and may need to be revised at certain times to include unexpected sampling activities. The QAPP includes:

- The organization for the performance of the field activities and the responsibilities of the personnel performing the field work;
- QA/QC objectives to ensure the integrity of data;
- Procedures for collecting, handing and tracking all environmental samples;
- Quality Audits;
- Preventive measure procedures to ensure the integrity of the data; and
- Corrective action procedures.

6.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan will be prepared to address worker health and safety for remedial actions to be performed at the site. The Health and Safety Plan will be prepared to address worker safety issues and well as community impacts based on projected activities to be performed. The Health and Safety Plan should include:

- Roles and responsibilities of project team members;
- A history of the Site and a description of the Site activities;
- A discussion of the potential chemical, biological and physical hazards at the Site;
- Activity Hazard Analyses (AHAs) for the various work tasks;
- A discussion of the requirements and use of Personal Protective Equipment (PPE);
- Air monitoring requirements;
- Establishment of work zones;
- Medical surveillance procedures and protocols;
- An Emergency Response Plan; and
- Requirements for records keeping and tracking.

The Health and Safety Plan will be developed with the remediation contractor selected during the Remedial Design process.

7.0 OPERATIONS, MAINTENANCE AND MONITORING (OM&M) PLAN OUTLINE

The OM&M plan will be developed using the outline below. The outline includes the elements required by Section 6 of the Draft DER-10.

1.0 Introduction
- 1.1 Project
- 1.2 Purpose of OM&M Manual
- 1.3 Special Site-Specific Safety Warnings
- 1.4 Records Management

2.0 Site Description
- 2.1 History
- 2.2 Environmental Setting

3.0 Site Remedial Action
- 3.1 Description of Remedial Action
- 3.2 Goals of Remedial Action

4.0 Monitoring Program
- 4.1 Remedy Effectiveness Monitoring
- 4.2 Analytical Program
- 4.3 Data Evaluation

5.0 Maintenance Program (includes engineering and institutional controls)
- 6.1 Maintenance Activities
- 6.2 Inspections and Maintenance
- 6.3 Preventive Maintenance Schedules

6.0 Reports
- 6.1 Periodic Reports

7.0 Citizen Participation
- 7.1 OM&M Citizen Participation Plan
- 7.2 Contact List

8.0 Personnel
- 8.1 Organization
- 8.2 Responsibilities and Duties
- 8.3 Training (including Health and Safety)
- 8.4 Material Safety Data Sheets

9.0 Health and Safety Plan

10.0 Records and Forms
- 10.1 Operating / Inspection
- 10.2 Monitoring
- 10.3 Maintenance
- 10.4 Waste Disposal
- 10.5 Maintenance Costs

11.0 Emergency Contingency Plan
- 11.1 Emergency Spill Response

8.0 REMEDIAL DESIGN SCHEDULE

The Draft Remedial Design Schedule for the site is presented below. This schedule tracks the remedial design tasks from review of this RDWP through remedial design to implementation. This schedule is identified as "DRAFT" due to the fact that the remedial design will not be finalized until after the completion of the remedial design activities described in this RDWP.

	TASK	MILESTONE DATE
(1)	Submittal of the Draft RDWP to the NYSDEC	September 2007
(2)	NYSDEC Review of Draft RDWP	October 2007
(3)	Submittal of Final RDWP and Fact Sheet to NYSDEC for Review and Comment	November 2007
(4)	Public Comment Period for RDWP and Fact Sheet	December 2007
(5)	Submittal of Draft Remedial Design Report (RDR) to NYSDEC for Review and Comment	February 2008
(6)	NYSDEC Review of Draft RDR	March 2008
(7)	Procurement of Remedial Contractor	March 2008
(8)	Submittal of Final RDR to NYSDEC for Review and Comment	April 2008
(9)	NYSDEC Review and Approval of Final RDR	April 2008
(10)	Submittal of Draft Pre-Construction Notice and Fact Sheet to NYSDEC for Review and Comment	May 2008
(11)	NYSDEC Review of Draft Pre-Construction Notice and Fact Sheet	May 2008
(12)	Transmit Pre-Construction Notice and Fact Sheet	May 2008
(13)	Begin Remedial Action	June 2008
(14)	Complete Initial Remedial Activities (Excavation and Temporary Environmental Cap)	August 2008

(15)	Develop Construction Documents and Applications	September 2008
(16)	Submittal of Construction Documents and Associated Applications to Regulatory Agencies and City of Yonkers for Review and Approval	November 2008
(17)	Receive Permits and Approvals from Regulatory Agencies and City of Yonkers	February 2009
(18)	Begin Site Development Construction and Final Remedial Activities (Final Environmental Cap and Sub-Slab Depressurization System)	March 2009

This schedule is an estimate and may change based on: direction from the NYSDEC; regulatory agency review times; and, the timeframe for public comments as well as responding to public comments. The schedule assumes regulatory review comments on remedial design documents can be accepted into final documents without additional comment/response correspondence between CFS and the regulatory agencies. The schedule may also be impacted by site remediation and construction issues as well as unanticipated delays related to zoning, permits, and regulatory approvals for remediation and construction.

9.0 REFERENCES

Henningson, Durham & Richardson (HDR), 2005. Final Remedial Site Investigation/Remedial Alternatives Report (SI/RAR), Former Halstead Quinn Major Oil Storage Terminal Facility, Yonkers, New York, prepared for YASR, October 2005.

New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation, 2006. Environmental Restoration Record of Decision, Former Halstead Quinn/ATI Tank Farm Site, Yonkers, Westchester County, New York, Site Number B-00193, March 2006.

NYSDEC, 2006. Proposed Remedial Action Plan (PRAP) Former Halstead Quinn/ATI Tank Farm, Environmental Restoration Project, City of Yonkers, Westchester County, New York, Site No. B00193-3, January 2006.

SCS Engineers, P.C. (SCS), 2001. Phase I Environmental Assessment Report, prepared for Yonkers Alexander Street Redevelopment, Inc. (YASR), September 2001.

SCS, 2001. Site Screening Investigation Report, prepared for YASR, September 2001.

APPENDIX A

NYSDEC Approval Letter for Beneficial Soil Use

Legend

☆ Site Location

SOURCE:
USGS Topographic Map
7.5 Minute Series
Yonkers Quadrangle
UTM ZN 18N NAD 83 Coordinates
E 592540.5
N 4532719.1

USGS SITE LOCATION MAP
79-91 Alexander Street
Yonkers, Westchester County, New Jersey

PS&S
integrating design & engineering

Drawn By: JC	Scale: 1" = 1000'	Project No. 03113.001.004
Chk'd By: JMP	Date: 9-10-07	Figure No. 1

Map Document: (P:\03113\001\Y\N\Maps\fig1_USGS_091007_01.mxd)
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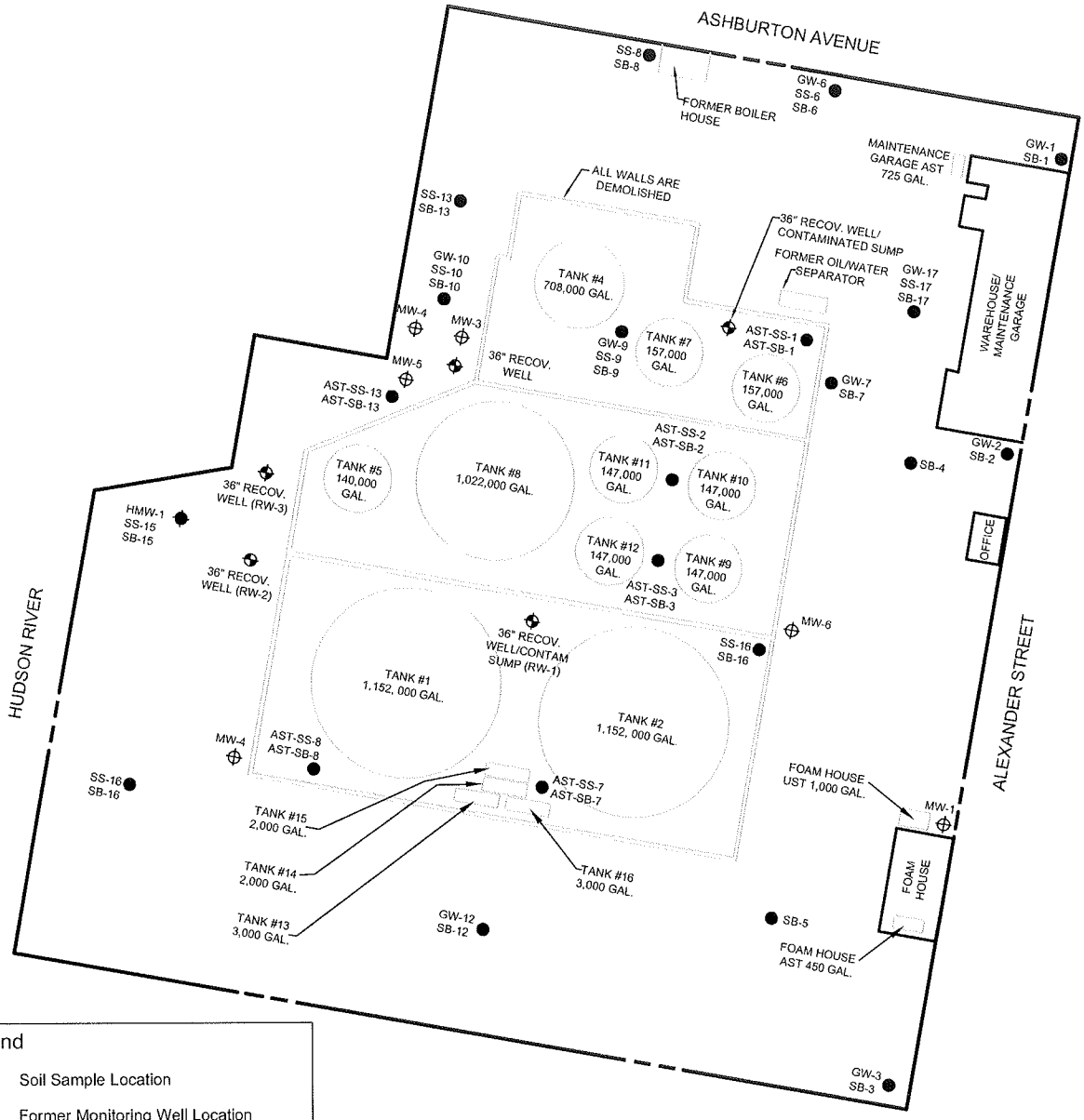


Legend

- Soil Sample Location
- Former Monitoring Well Location
- Former Recovery Well Location

NOTE:
ALL TANKS ARE DEMOLISHED OR REMOVED.

P S & S
integrating design & engineering

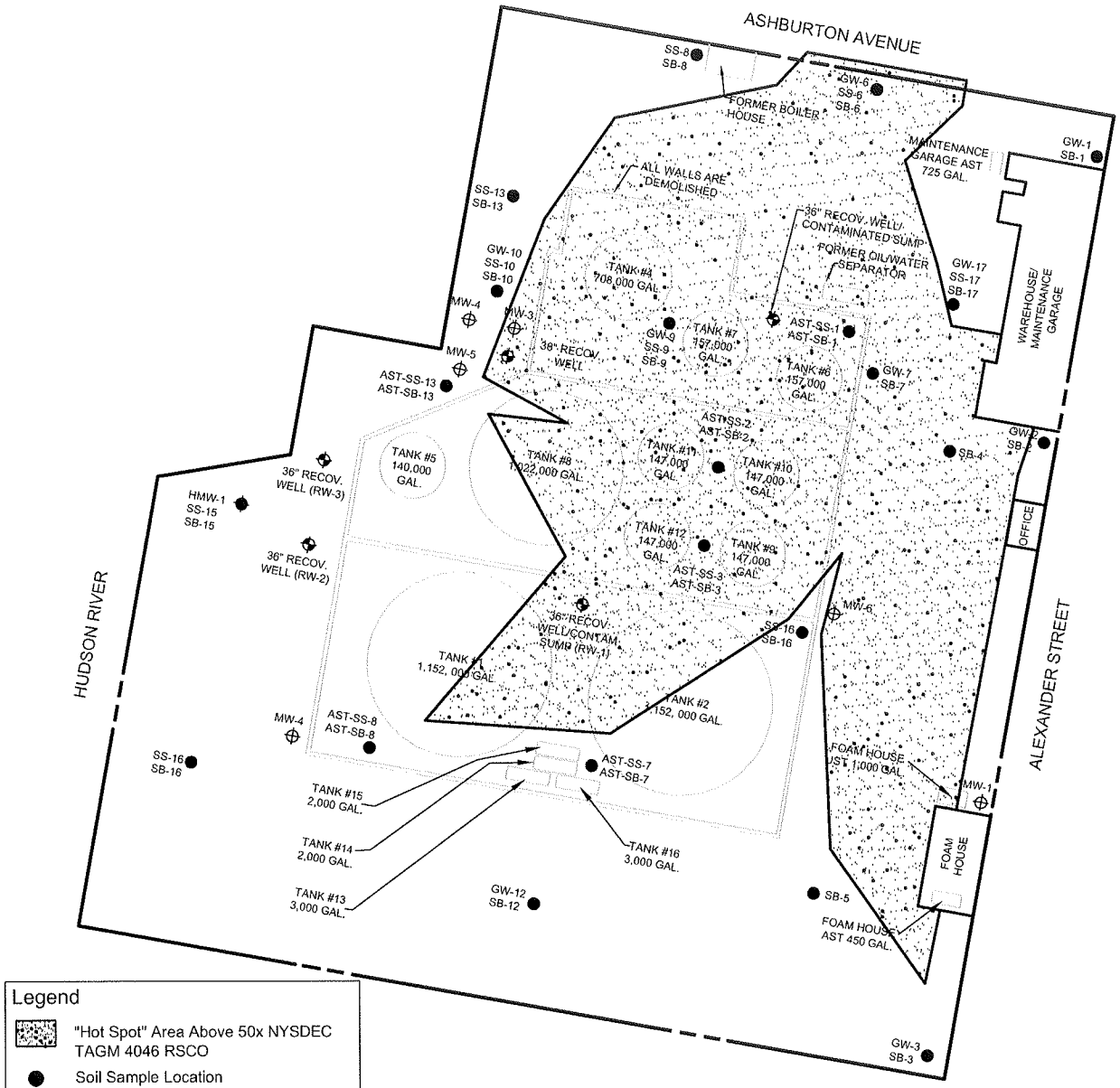
470 NEPPERHAN AVENUE
SUITE 220
YONKERS, NEW YORK 10701
PHONE: (914) 509-8600
FAX: (914) 407-1679

SITE PLAN
79-91 Alexander Street
Yonkers, Westchester County, New Jersey

Source: "50x NYSDEC TAGM# 4046 RSCO "Hot Spot" Area," prepared by HDR as part of Yonkers ATI Site Investigation/Remedial Alternatives Report, dated 10-20-05.

Drn. By: JC	Scale: 1" = 20'	Proj. No.: 03113.001.004
Ck'd By: HN	Date: 09/10/07	Fig. No.: 2

PROJECT: FILE NAME:P:\03113\001\Y\N\Dwgs\Fig2_SitePlan_091007_02.dwg LAST EDIT: 09/10/2007-03:13:27 PM



Legend

- "Hot Spot" Area Above 50x NYSDEC TAGM 4046 RSCO
- Soil Sample Location
- Former Monitoring Well Location
- Former Recovery Well Location

NOTE:
ALL TANKS ARE DEMOLISHED OR REMOVED.

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470 NEPPERHAN AVENUE
SUITE 220
YONKERS, NEW YORK 10701
PHONE: (914) 509-8600
FAX: (914) 407-1679

AREA OF GROSSLY CONTAMINATED SOIL
79-91 Alexander Street
Yonkers, Westchester County, New Jersey

Source: "50x NYSDEC TAGM# 4046 RSCO "Hot Spot" Area," prepared by HDR as part of Yonkers ATI Site Investigation/Remedial Alternatives Report, dated 10-20-05.

Drn. By: JC	Scale: 1" = 20'	Proj. No.: 03113.001.004
Ck'd By: HN	Date: 09/10/07	Fig. No.: 3

PROJECT: FILE NAME:P:\03113\001\Y\N\Dwgs\Fig3_ContaminatedSoils_091007_02.dwg LAST EDIT: 09/10/2007-03:11:26 PM

TABLE 1

Nature and Extent of Contamination

Samples Collected October 2004-August 2005

Remedial Design Work Plan

Former Halstead Quinn/ATI Tank Farm

SURFACE SOIL SAMPLES (0 to 2 inches below surface grade)

	Contaminant of Concern	Concentration Range Detected (ppm)[a]	SCG[c] (ppm)[a]	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	0.16 - 3.5	0.224	7 of 15
	Benzo(a)pyrene	0.15 - 14	0.061	8 of 15
	Benzo(b)flouranthene	0.17 - 17	1.1	3 of 15
	Benzo(k)flouranthene	0.078 - 12	1.1	2 of 15
	Chrysene	0.16 - 18	0.4	7 of 15
	Pyrene	0.79 - 50	50	1 of 15
Inorganic Compounds	Cadmium	ND - 1.76	1	1 of 15
	Chromium	1.43 - 53.3	10	1 of 15
	Mercury	0.006 - 2	0.1	12 of 15

SUBSURFACE SOIL SAMPLES

	Contaminant of Concern	Concentration Range Detected (ppm)[a]	SCG[c] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Acetone	ND - 1.8	0.2	3 of 28
	Benzene	ND - 32	0.06	2 of 28
	Ethyl Benzene	ND - 17	5.5	1 of 28
	Methylene Chloride	ND - 0.150	0.1	1 of 28
	Toluene	ND - 6.5	1.5	1 of 28
	Total Xylenes	ND - 66	1.2	3 of 28
Semi volatile Organic Compounds (SVOCs)	Benzo(a)anthracene	0.066 - 20	0.224	18 of 28
	Benzo(a)pyrene	0.065 - 18	0.061	22 of 28
	Benzo(b)flouranthene	0.064 - 19	1.1	7 of 28
	Benzo(k)flouranthene	0.013 - 4.8	1.1	7 of 28
	Chrysene	0.074 - 20	0.4	15 of 28
	Dibenz(a,h)anthracene	ND - 3.4	0.014	2 of 28
	Dimethylphthalate	ND - 15	2	1 of 28
	Indeno(1,2,3-cd)pyrene	ND - 14	3.2	1 of 28
	2-methylnaphthalene	ND - 82	36.4	3 of 28
	Napthalene	ND - 23	13	1 of 28
	4-Nitrophenol	ND-0.11	0.1	1 of 28
	Phenanthrene	0.086 - 77	50	1 of 28
	Pyrene	ND -69	50	1 of 28
Inorganic Compounds	Arsenic	1.41 - 44.2	7.5	7 of 28
	Cadmium	ND - 3.58	1	8 of 28
	Chromium	6.54 - 54.5	10	1 of 28
	Lead	15.2 - 858	500	2 of 28
	Selenium	0.797 - 5.46	2	9 of 28
	Silver	ND - 6.41	3.9	3 of 28
	Mercury	0.154 - 37.8	0.1	18 of 28

TABLE 1 (CONTINUED)
Nature and Extent of Contamination
Samples Collected October 2004-August 2005
Remedial Design Work Plan
Former Halstead Quinn/ATI Tank Farm

GROUNDWATER SAMPLES

	Contaminant of Concern	Concentration Range Detected (ppb)[b]	SCG[c] (ppb)[b]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Ethyl Benzene	ND - 20	5	1 of 19
	Isopropylbenzene	ND - 7.7	5	1 of 19
	Methyl tert-butyl ether	ND - 18	10	1 of 19
Semivolatile Organic Compounds (SVOCs)	Acenaphthene	ND - 75	20	1 of 19
	Benzo(a)anthracene	ND - 2.1	0.002	2 of 19
	Chrysene	ND - 2.1	0.002	2 of 19
	Benzo(b)flouranthene	ND - 1.7	0.002	1 of 19
Inorganic Compounds	Arsenic	ND - 84.1	25	7 of 28
	Barium	311 - 1540	1000	1 of 28
	Cadmium	ND - 12.6	5	3 of 28
	Chromium	ND - 202	50	6 of 28
	Lead	2.18 - 1710	25	16 of 28
	Selenium	ND - 11.2	10	3 of 28
	Mercury	0.58 - 710	0.7	11 of 28

NOTES:

[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 Liter, ug/L, in groundwater

[c] SCG = standards, criteria, and guidance values
Soil SCG = TAGM 4046 Recommended Soil Cleanup Objectives
Groundwater SCG = Class GA Source of Drinking Water Criteria from TOGS 1.1.1
ND = Non Detect

New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7016
Phone: (518) 402-9768 **Fax:** (518) 402-9773
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

June 29, 2006

Mr. Robert Gottschall
Director and President
Yonkers Alexander Street Redevelopment, Inc.
1 Ridge Hill, Suite 105
Yonkers, New York 10710

Dear Mr. Gottschall:

Re: Halstead Quinn/ATI Tank Farm Environmental Restoration Project Site
Site No. B00193-3

The New York State Department of Environmental Conservation has evaluated the request by Yonkers Alexander Street Redevelopment, Inc. (YASR) to beneficially use soil from a 20,000+ cubic yard soil pile located on one of the City's properties, Yonkers Waterfront parcels H&I , as backfill for the Halstead Quinn/ATI Tank Farm site. NYSDEC is pleased to approve this request subject to the following conditions:

- The parcels H&I soil cannot be used in the top two feet of cover at the Halstead Quinn/ATI Tank Farm site in vegetated areas. Soils used in the top two feet must comply with NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) 4046;
- Trucks transporting this soil must be securely covered;
- The new owner of the Halstead Quinn/ATI Tank Farm must be willing to accept the use of this soil as fill, and;
- Any excess soil remaining at the parcels H&I site must be properly disposed of off-site in accordance with 6 NYCRR Part 360.

On completion of soil placement at the Halstead Quinn/ATI Tank Farm, a report of the volume of soil used as backfill must be sent to myself and:

Thomas J. Lynch, PE
Bureau of Solid Waste, Reduction & Recycling
Division of Solid & Hazardous Materials
625 Broadway, 9th Floor
Albany, NY 12233-7253

Robert J. Stanton, PE
NYSDEC Region 3
21 South Putt Corners Rd
New Paltz, NY 12561

In addition, YASR must notify the above addressees of any change of owner responsible for management of the Yonkers Waterfront parcels H&I soils. The reference for this Beneficial Use Determination is BUD No. 875-3-60, "Yonkers Alexander Street Redevelopment, Inc."

The NYSDEC looks forward to continuing to work with YASR, the City of Yonkers, and the site developers to return the Halstead Quinn/ATI Tank Farm property to productive use. Please contact me at (518) 402-9768 if you have any questions.

Sincerely,

Robert H. Filkins
Project Manager
Bureau of Eastern Remedial Action
Division of Environmental Remediation

cc: T. Dugan (YASR)
L. Shaw (Knauf Shaw LLP)