A. INTRODUCTION

This chapter presents the findings of the hazardous materials assessment and identifies potential issues of concern that could pose a hazard to workers, the community, users of Pier 57 and/or Hudson River Park and the environment during or after development of the proposed project. The proposed project would entail rehabilitation and repair of the pier’s supporting caissons, piles, and the pier structure itself with the addition of new rooftop structures on the headhouse, pier shed, and within the building interior. Limited shallow subsurface disturbance upland of the pier, within Hudson River Park, would also be required.

A Phase I Environmental Site Assessment (ESA) was performed for the project site by Langan Engineering and Environmental Services P.C. (Langan) in September 2010 to identify potential environmental concerns resulting from past or current on- and off-site operations. The Phase I ESA included a visual inspection of the property; a review of available records, historical maps, aerial photographs and interviews with facility personnel to determine previous on-site and adjacent land uses; and an evaluation of regulatory databases for the project site and neighboring properties.

A Phase II Environmental Site Investigation (ESI) was also conducted by Langan (dated January 3, 2011) and consisted of: a geophysical survey, four soil borings with laboratory analysis of soil samples; and laboratory analysis of indoor and ambient air samples.

As described below, though the pier was constructed from 1950 to 1954 and historically used for the Grace Lines cruises (through 1967), after 1967 it was used as a bus garage and maintenance facility. The pier has been vacant since 2004. Multiple aboveground and underground storage tanks (ASTs and USTs) were associated with the prior uses (primarily storing petroleum products). Remediation of a diesel spill (No. 9106100) from a 7,500 gallon underground tank reported in 1991 in the upland portion of the site is ongoing under the oversight of New York State Department of Environmental Conservation (NYSDEC). Residual soil and groundwater contamination is still present. As part of Hudson River Park, the overall site is subject to existing requirements to address potential hazardous materials; e.g., requirements for asbestos abatement prior to rehabilitating buildings, and Health and Safety Plan requirements addressing subsurface disturbance.

PRINCIPAL CONCLUSIONS

The Phase I ESA and Phase II Subsurface Investigation for the site revealed the potential for subsurface contamination and hazardous materials (such as asbestos-containing materials [ACM] and lead-based paint [LBP]) on the project site. Renovation and rehabilitation or the project site would be conducted in accordance with applicable federal, state and local regulatory requirements. Excavation work would be performed in accordance with a New York City Department of Environmental Protection (NYCDEP)-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) and all excavated soil requiring off-site disposal would be
managed in accordance with applicable regulatory requirements. By adhering to these existing requirements, no significant adverse impacts due to the potential presence of any potential hazardous materials would be expected to occur either during or following construction at the site.

B. EXISTING CONDITIONS

TOPOGRAPHY AND SUBSURFACE CONDITIONS

The surface topography of the upland portion of the project site is less than 10 feet above mean sea level with a slight slope down to the Hudson River. During the Phase II, groundwater was encountered at depths of less than 10 feet and historic urban fill materials were found to extend at least 10 feet below grade. Historical maps indicated that the project site was entirely within the River prior to filling of the area west of 11th Avenue in the late 1800s. Bedrock is estimated to be approximately 70 feet below grade.

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

The Phase I ESA revealed the following:

- Sixteen petroleum ASTs/USTs and two chemical bulk storage tanks (containing ethylene glycol—commonly known as antifreeze) were historically listed, some within the structure and some underground in the upland portion of the site. Staining was observed on concrete floors around ASTs in the basement. Following the 1991 spill report (a release associated with a 7,500 gallon diesel UST), a subsurface investigation was conducted and a recovery system was installed. Approximately 430 gallons of petroleum were recovered and two large USTs were subsequently closed in place; however, residual contamination remained. In 2002, New York City Transit addressed the residual contamination using bioremediation but further monitoring and sampling indicated that residual contamination still remained. Since 2007, quarterly groundwater and soil samples have been collected on behalf of NYCT as part of a NYSDEC-approved Monitored Natural Attenuation (MNA) Work Plan. Injection of a chemical oxidant to increase the pace of attenuation was conducted in June 2010. Recent data has indicated that no floating petroleum product remains on the water table but residual soil and groundwater contamination remains.

- The bus depot, in addition to storing and using a range of petroleum products and solvents, generated a variety of hazardous wastes including ignitable wastes, corrosive wastes and cadmium.

- Upland areas of the property include historical urban fill materials as historic maps indicate that the area west of 11th Avenue was filled in for waterfront development in the late 1800s. Historical urban fill typically includes ash and demolition debris. Although manufactured gas (also known as coal-gas) facilities were historically located east of the highway between West 16th and 18th Streets, based on the anticipated groundwater flow direction (towards the river), these would not be expected to affect the project area. No signs of manufactured gas plant-related contamination have been found in soil or groundwater samples collected in upland areas close to the project site. Based on the high density of manufactured gas plant wastes, it is possible that contamination may be present in deeper soils or in rivers sediments. However, the proposed project would not involve deep soil disturbance or dredging and would not disturb these areas.
Potential ACM, LBP, and polychlorinated biphenyls (PCBs) containing equipment (such as fluorescent light ballasts, window caulking, and hydraulic elevator fluid) were observed inside the pier. AKRF Inc. prepared a Preliminary Asbestos and Lead Paint Inspection Report in 2004, described the collection and analysis of approximately 287 samples for asbestos and use of an X-Ray Fluorescence (XRF) meter to determine the approximate level of lead in paint. ACM (in tiling, fireproofing, insulation, linoleum, caulking, plaster, etc.) and LBP (on metal elevator doors, concrete walls and floors, metal guardrails, piping and electrical panels, wood walls, etc.) were found in the pier.

Historic nearby properties (across Eleventh Avenue) included a gasoline filling station, a manufactured gas works, a galvanizing factory, a melting and refining works and a wall paper colors manufacturer.

Based on the findings of the Phase I ESA, a Phase II ESI was conducted, consisting of: a geophysical survey, four soil borings with laboratory analysis of soil samples; and laboratory analysis of indoor and ambient air samples. The four soil borings were located upland of the site along Eleventh Avenue; two borings were located along the northern half of the pier frontage and two were located along the southern half of the pier frontage. These borings were in addition to those conducted as part of the ongoing remediation of the previous spill on the upland portion of the site.

The Phase II ESI revealed the following:

- The two borings immediately upland of the northern half of the pier showed evidence of petroleum contamination (the release described in the first bullet above was close to the northeast corner of the pier) whereas the two borings in the southern half showed no such signs. Although laboratory analysis of soil samples did show some exceedances of the most stringent NYSDEC criteria (Unrestricted Use Soil Cleanup Objectives specified in 6 NYCRR 375-6), exceedances were present (as would be anticipated for petroleum-contaminated soil) but relatively minor and subsequent testing indicated that the soil would not be classified as a (lead) hazardous waste.

- Indoor air samples were collected at three locations inside the pier where ASTs or signs of petroleum releases (staining/odor) were noted. Laboratory analysis revealed no levels above guidelines, except for methylene chloride, which was also detected in the associated batch blank and therefore was judged to be a laboratory artifact and not representative of indoor air quality.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, or No Action condition, the pier will continue to be unoccupied. NYCT would continue to address the petroleum spill immediately upland of the pier with oversight by NYSDEC. As with current conditions, there will be no significant health or environmental risks in the future without the project.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PIER STRUCTURE

Construction of the proposed project would entail renovation and rehabilitation of the existing structure along with the addition of several new rooftop structures. Based on the findings of the Phase I ESA and Phase II Subsurface Investigation, the pier contains ACM, LBP, and possible PCB-containing items. Some concrete staining in the vicinity of petroleum tanks was also observed. Renovation and rehabilitation would be conducted in accordance with applicable
federal, state and local regulatory requirements including those relating to ACM-, LBP-, and PCB-containing items. Any remaining stored chemicals would be properly removed and disposed of off-site. Stained areas would be cleaned and sealed as necessary.

**UPLAND AREA**

Limited shallow subsurface disturbance upland of the pier, within Hudson River Park, would be required for construction of the proposed project. This work would consist primarily of construction of driveways to the pier structure and the realignment of the Route 9A bikeway, and no buildings, piles or deep disturbance is anticipated in this area. Based on the findings of the Phase I ESA and Phase II Subsurface Investigation, petroleum-contaminated soil could be encountered, especially in the vicinity of the known historical spill near the northeast corner of the pier. If remediation of this spill has not been completed to the satisfaction of NYSDEC (i.e., the spill still has an “open” status) when the subsurface disturbance occurs, coordination with NYCT and NYSDEC would be performed to ensure that construction for the proposed project would not exacerbate the spill or prevent it from being properly addressed during or following construction. Remediation of this spill would continue in accordance with NYSDEC requirements, and a copy of the spill closure report will be submitted to the NYCDEP upon the completion of remedial activities. Petroleum-contaminated groundwater is not expected to be encountered, as construction is not expected to extend to the water table. In this and other areas, historical urban fill materials are known to be present and the presence of unexpected tanks or other unexpected sources of contamination cannot be ruled out. Since excavation would disturb any such materials and potentially increase pathways for human exposure, impacts would be avoided by performing the work in accordance with a NYCDEP-approved RAP and CHASP. The RAP would specify requirements for items such as: installation of two feet of clean fill as a “site cap” in unpaved areas; handling of contaminated or potentially contaminated soil, groundwater or treated wood (e.g., pilings); soil stockpiling, soil disposal and transportation; dust control; air monitoring in the work zone and the community; dewatering procedures; quality assurance; and contingency measures (including reporting and registration requirements) should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment. The measures included in the CHASP would include oversight by a trained Health and Safety Officer (HSO), training for workers, personal protective equipment, air monitoring requirements including community air monitoring, and emergency response procedures. Following any excavation, the area would be backfilled with clean soil. Most of the area east of the pier structure would also be paved. Additionally, all excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements, and, as necessary, tested in accordance with the requirements of the intended receiving facility. Transportation of all material leaving the site would be in accordance with applicable requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. Should dewatering be required for construction of the proposed project, testing would be performed to ensure that the discharged water would meet applicable NYCDEP sewer discharge and/or NYSDEC SPDES requirements. If necessary, the water would be pretreated prior to discharge, as required by NYCDEP or NYSDEC permit/approval requirements.

With the implementation of the above procedures, no significant adverse impacts due to the potential presence of any hazardous materials would be expected to occur either during or following construction at the project site.