# SECTION 6-4-10
# HAZARDOUS WASTE AND CONTAMINATED MATERIALS

Transportation projects that include the acquisition of right-of-way, construction easements, and/or the excavation or other disturbance of soils have the potential to encounter hazardous and/or contaminated (non-hazardous) materials as a result of:

- Planned construction activities,
- Relocation of utilities, and/or
- Structure demolition or modification.

The presence or release of these materials on construction sites can expose workers, members of the public, and the environment to these materials. In addition, the unexpected encounter of either known or suspect hazardous and/or contaminated materials during construction can lead to project delays and add substantial cost to a project.

Established environmental regulations must be followed during the removal and disposal of identified hazardous waste, non-hazardous solid waste, and construction and demolition (C&D) debris. Hazardous wastes are listed wastes that are ignitable, corrosive, reactive, or toxic. This can include lead-based paint wastes. Non-hazardous solid waste does not contain those characteristics and includes materials such as general trash, both friable[1] and non-friable asbestos-containing materials, most petroleum contaminated soil, and empty drums and tanks. C&D debris includes uncontaminated concrete, asphalt pavement, brick, glass, soil, and rock.

The storage, transportation, and disposal of contaminated and hazardous materials are regulated at the Federal level by USEPA. At the state level, most of the environmental regulations are promulgated and enforced by either NYSDEC, NYSDOH, or the NYSDOL. NYSDEC manages most New York State mandated environmental cleanups (Brownfield, Petroleum Spills, State Superfund, and Voluntary Cleanup), provides guidance on environmental cleanup levels, issues permits to waste transporters, and approves licenses for various disposal and treatment facilities. The NYSDOH assists the NYSDEC with the development of cleanup standards, assists the public with the communication of right-to-know and public health issues, and grants certain environmental training certificates (e.g., asbestos and mold). The NYSDOL manages New York State's Asbestos Control Bureau, project notifications, licensing of Contractors, and the coordination of pre-demolition asbestos surveys.

The management of subsurface contamination is subject to various regulatory programs, including the Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, commonly referred to as "Superfund") and Resource Conservation and Recovery Act (RCRA), as well as the State Inactive Hazardous Waste Disposal Site Remedial Program, Brownfield Cleanup Program, New York State Environmental Conservation Law, and Article 12 of the New York State Navigation Law (relating to petroleum spills). NYSDEC's Technical Guidance for Site Investigation and

[1] Able to be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand.

Remediation (DER-10) establishes methods for site investigation and clean up, and the Solid Waste Management Facilities Regulations control disposal of excavated materials (6 NYCRR Part 360).

NYSDOT requires that a Hazardous Waste/Contaminated Materials (HW/CM) Screening Assessment (referred to as "HW/CM Assessment" within this section) be performed to identify the potential for encountering hazardous and non-hazardous contaminated materials during the planned construction work. The HW/CM Assessment involves a screening of each of the properties under review for possible contamination, focusing on current and previous activities, a review of available environmental records and files for that property, historical maps and photos, and a review of the surrounding land use.

The methodology described in NYSDOT's TEM was followed for the HW/CM Assessment to identify sites of potential environmental concern based on existing and past property uses. The procedures described in TEM generally follow those steps outlined in the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," and are consistent with ASTM Standard Practice E 1528-06, "Standard Practice for Limited Environmental Due Diligence; Transaction Screen Process," and ASTM Standard Practice E 1903-97, "Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process," but are adapted to more closely meet the needs of NYSDOT projects.

As part of the screening to identify sites of potential environmental concern based on existing and past property uses, sites within and/or adjacent to the project study areas were reviewed using Federal and State database records obtained from Environmental Data Resources Inc. (EDR) in 2010. Additional information was obtained from EDR in 2016, 2017, 2018, 2019, and 2021 for the expanded study areas and areas that were identified as missing from the earlier records. These adjustments were made to account for changes in the project limits including noise walls that are under consideration. The search radii varied by database, but included the databases shown in **Table 6-4-10-1**.

Other records and sources of information were also used for the review, including historical topographic maps, historical land use maps, Sanborn Fire Insurance maps, city directories, historical aerial photographs, and public records held by the City of Syracuse, Town of Dewitt, Village of East Syracuse, Town of Cicero, and Onondaga County. In addition, NYSDEC's website was reviewed to identify additional environmental (i.e., spills, remediation, and bulk storage) database records. Work also included a sidewalk reconnaissance inspection and the collection of photographs to identify sites of potential environmental concern based on existing and past property uses and the potential to have contaminated materials and/or hazardous substances. Contacts were made with a number of local municipalities during the research of the study areas; however, no individual property owners were interviewed during the walkover of the corridor.

**Table 6-4-10-1**
**Datasets for Hazardous Materials Inventory**

| | |
|---|---|
| National Priorities List (NPL) | State/Tribal Brownfield |
| National Priorities List Delisted (NPLD) | Federal Brownfield |
| Comprehensive Environmental Response, Compensation, and Liability Information | Hazardous Materials Information Reporting System (HMIRS) |
| No Further Remedial Action Planned Sites (CERC-NFRAP) | NYSDEC Spills (SPILLS) |
| Corrective Action Sites (RCRA COR) | Non Generator (NON GEN) |
| Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal | Toxic Chemical Inventory Release System (TRIS) |
| Resource Conservation and Recovery Act (RCRA) Large and Small Quantity Generators | Toxic Substances Control Act (TSCA) |
| Federal Institutional and Engineering Controls (Fed IC/EC) | FIFRA/TSCA Tracking Systems (FTTS) |
| Emergency Response Notification System (ERNS) | Integrated Compliance Information System (ICIS) |
| NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (SHWS) | PCB Activity Database System (PADS) |
| State/Tribal Solid Waste Landfills (SWL) | Material Licensing Tracking System (MLTS) |
| State/Tribal Leaking Underground Storage Tanks (LUST) | Radiation Information Database (RADINFO) |
| State/Tribal Storage Tanks (UST/AST) | Facility Index System (FINDS) |
| State/Tribal Institutional & Engineering Controls (IC/EC) | RCRA Administrative Action Tracking System (RAATS) |
| State/Tribal Voluntary Cleanup Program (VCP) | Risk Management Plan (RMP) |
| Hazardous Substance Waste Disposal (HSWDS) | Tribal Lands |
| Hazardous Waste Manifest (Manifest) | Potentially Responsible Party (PRP) |
| Manufactured Gas Plants (MGP) | Aerometric Information Retrieval System (AIRS) |
| National Pollutant Discharge Elimination System (NPDES) | |

## 6-4-10.1 AFFECTED ENVIRONMENT

As described in **Section 6-1, Introduction**, the Project Area includes portions of I-81, I-690, I-481, and adjacent streets that may be altered by one or both of the project alternatives. The Project Area is divided into four study areas: Central Study Area, I-481 South Study Area, I-481 East Study Area, and I-481 North Study Area (see **Figure 6-1-1**). A HW/CM Assessment was completed for the Project Area, which identified over 250 sites of potential concern. Additional detail on each site of potential concern is found in the HW/CM Screening Assessment Report located in **Appendix L** and in **Figures 6-4-10-1 to 6-4-10-19**.

### 6-4-10.2 NO BUILD ALTERNATIVE

The No Build Alternative would maintain the highway in its existing configuration with ongoing maintenance and repairs to ensure safety of the traveling public. As such, the No Build Alternative would not have adverse effects related to hazardous and/or contaminated materials.

### 6-4-10.3 ENVIRONMENTAL CONSEQUENCES OF THE VIADUCT ALTERNATIVE

#### 6-4-10.3.1 PERMANENT/OPERATIONAL EFFECTS

The Viaduct Alternative would affect a total of approximately 52 bridge and ramp structures, 24 buildings, and one building-associated structure (a smokestack). A detailed inspection of each property and any building structure on that site would be completed as the design advances. Additional information on the individual property acquisitions is provided in **Section 6-3-1, Land Acquisition, Displacement, and Relocation**. Sixty-eight (68) of the 119 sites on the full or partial property acquisition list for this alternative were identified as sites that have a potential to exhibit signs or have a history of contamination.

Prior to demolition, asbestos and lead-based paint surveys would be required to identify, locate, and quantify asbestos and lead containing materials for these structures. In addition, the buildings likely contain mercury fluorescent light bulbs and polychlorinated biphenyl (PCB) light ballasts, batteries, refrigerators/freezers that contain ozone depleting refrigerants, and miscellaneous operational and maintenance equipment, chemicals, and products. These items represent a business environmental risk and must be removed prior to demolition and reclaimed/salvaged or transported off-site for proper disposal. Environmental concerns for the demolition and replacement of the various bridges, ramps, and connecting roadways include asbestos-containing materials, lead-based paint, high intensity discharge lighting, and the possibility of encountering subsurface soil and groundwater contamination during excavation work.

The potential for encountering future contamination associated with any sites impacted by the Project would be reduced by the cleanup actions conducted during construction of the alternative. Sixty-eight (68) of the properties on the acquisition list were included in the total identified sites located adjacent to the I-81 corridor and listed as locations where subsurface contamination may be encountered. Additional properties of concern were identified outside the I-81 corridor (see the HW/CM Screening Assessment Report in **Appendix L** and **Figures 6-4-10-1 through 6-4-10-19**). Areas where subsurface contamination and orphan underground storage tanks (USTs) are identified would be addressed when encountered during construction for the Project.

Operationally, maintenance and cleanup of any future releases would be performed in accordance with applicable state and Federal laws and standard NYSDOT roadway operating procedures.

#### 6-4-10.3.2 CONSTRUCTION EFFECTS

Based on the past and present property uses within the Project Area, subsurface contamination is anticipated to be identified during construction at numerous sites. Many of the sites were identified as having historical petroleum storage and sales operations, automotive repair and

sales, and fleet/trucking operations. Soils may be contaminated by petroleum products (fuels and lubricants); washing and cleaning solvents; antifreeze; lead and mercury from spills and illegal disposal practices; and abandoned or leaking underground tanks. This type of contamination is the most common environmental issue encountered along urban highway corridors.

Several dry cleaning establishments and printers were also identified along the corridor. Dry cleaning operations involve the use of chlorinated volatile organic compounds and spotting chemicals. Printers use the same chemicals plus dyes/pigments that often contain a variety of metals, including arsenic, cyanide, and silver. Many sites were also used for industrial manufacturing, production, and warehousing with the potential for a wide range and variety of chemical materials products.

Portions of the highway alignment were also repurposed from former railroad corridors (New York Central West Shore/New York Central Railroad from Van Rensselaer Street to Beech Street for I-690 and the Lackawanna and Western Railroad for I-81 south of East Taylor Street). Rail lines and yards often have some degree of environmental impairment from cleaning, fueling, and other operational activities through the years. Contamination typically found along railroad lines includes partially combusted fossil fuels consisting of polynuclear aromatic hydrocarbons; leachate from creosote-preserved railroad ties; pesticides used in maintenance of the corridor; strong acid or alkaline materials; spent cleaning and degreasing solvents; ignitable paint wastes; used oil; lead contamination from older freight cars with plane bearings; and other heavy metals, including chromium and arsenic. In addition, the current location of Erie Boulevard East coincides with the historical location of the Erie Canal, and Oswego Boulevard coincides with the historical location of the Oswego Canal. These canals were backfilled with unknown materials to allow for construction of the area roadway network.

A Phase II Site Assessment would be performed as design advances at those locations with the suspected greatest likelihood of contamination where property acquisition and/or substantial soil disturbance is proposed. These investigations would be performed to determine the presence or absence of contamination or USTs, to assist with the development of remediation cost estimates, and to select and develop procedures for the protection of on-site workers and the adjacent public during remediation work.

The scope of the environmental investigation would include drilling investigations conducted with a direct push "hydraulic" or rotary drilling rig to collect soil samples for retrieval and examination. Soil samples would be collected and analyzed for both Target Compound List (TCL) and Target Analyte List (TAL) parameters for volatile, semi-volatile, pesticides, polychlorinated biphenyls (PCBs), and metals including mercury, cyanide, and hexavalent chromium. If any of the results indicate that the sample has the potential to be hazardous, the soil sample would be further analyzed under the Toxicity Characteristic Leaching Procedure (TCLP) methodology (USEPA method 1311) for the parameter(s) in question. This additional TCLP analysis would allow for the determination of whether the samples meet the definition of RCRA hazardous waste. The results of these field studies would provide information to support the development of environmental remediation cost estimates and to determine budgetary allowances that should be set aside for construction.

To identify how contamination that is discovered in the field would be addressed, the Contractor

would be required to prepare a site-wide Soil Management Plan prior to the start of work outlining procedures to be followed any time evidence of contamination, and/or potential contamination, is suspected or identified. Once evidence of contamination is identified by the Contractor in the field, an environmental monitor hired by the Contractor would be on call to assist with the screening and management of soils that show signs of contamination (i.e., strange or noxious odors, unnatural colors or sheen, odors characteristic of petroleum or solvent contamination, elevated volatile vapor readings as measured by field screening instruments).

During site remediation work, there would be potential for an increase in local worker and public exposures to the materials being removed (e.g., contaminated water and soil, asbestos-containing materials being abated from bridges and building structures, lead-based paint removal and disposal, the removal of identified petroleum bulk storage tanks and their associated products, etc.). A Project Safety and Health Plan would be required by NYSDOT and developed by the Contractor and would identify the various environmental remediation activities known as well as procedures to be followed in the event of an unidentified discovery (see **Chapter 4, Construction Means and Methods** and **Table 4-7**). The plan would be prepared to include a job hazard analysis of each identified task; assist with the identification of procedures for the protection of on-site workers and the adjacent public; describe the real-time monitoring of environmental field conditions and the collection of any necessary samples for laboratory analysis; and detail the procedures and regulations to be followed for the segregation, transport, and disposal of contaminated materials.

Ambient air quality would be monitored by the Contractor's environmental monitor for the protection of on-site workers and soil screening would be performed through visual observations and use of a photoionization detector or similar instrument. The Contractor's environmental monitor would follow the procedures described in the Project Safety and Health Plan that would be prepared by the Contractor. Elevated readings would be expected in close proximity to the active work zone and mitigated by the use of respiratory and other personal protective equipment with personal protective equipment levels adjusted based on field measurements. In addition, perimeter work zone monitoring for volatile vapors and particulates would be conducted at downwind and upwind locations to verify that any exposures are limited to adequately trained and protected personnel in the exclusion work zone. If elevated readings are recorded at the work zone limits, modifications including the implementation of engineering controls, adjustment of the exclusion zone boundary, or temporary stoppage of work would be employed.

For asbestos abatement work, an independent asbestos project monitor and air sampling technician would be present full-time as required by NYSDOL ICR 56 for the abatement of asbestos containing materials. Their role would include monitoring work activities and practices, confirming that the workers have current certifications and approved medical clearances, and collecting daily air samples to ensure that levels are not above 0.01 fibers per cubic centimeter or the established background level, whichever is greater.

Lead-based paint abatement work would be monitored in accordance with NYSDOT standard specifications for lead removal operations. NYSDOT would require that a Lead Exposure Control Plan (LECP) would be developed by the Contractor that includes practices and measures that would be implemented to ensure the safety and health of employees who may be exposed to lead during construction work. By extension this plan would be developed to protect the

general public. The LECP is consistent with the OSHA Lead Standard (29 CFR 1926.62) and would address all the requirements of that standard. A copy of this LECP would be maintained in all NYSDOT field offices administering contracts that include Class A, Class B or Environmental Ground/Waterway Protection work for paint removal work associated with lead-coated structural steel.

However, not all contaminated sites exhibit signs of contamination, such as petroleum odors, unnatural colors or sheen, or elevated volatile vapor readings as measured by field screening instruments. During construction, soils excavated from industrial and commercial sites identified as having the potential for contamination would be closely reviewed and characterized by the Contractor to coordinate their proper management and disposal. The establishment and use of an excavated soil laydown yard(s) would be a necessary component of the Soil Management Plan to provide a means to stockpile and test suspect soils generated during this Project. Testing of materials associated with historical industrial property uses would be conducted before releasing soils to the Contractor as unclassified excavation.

Contaminated soils would be managed in areas identified for material stockpiles or direct loaded for transport to an approved landfill. Stockpiled soils would be placed on impervious pavement or on polyethylene sheeting and covered with sheeting or an equivalent material and then properly weighted to prevent contaminated runoff from precipitation and the release of odors. Any soils stored in roll-off containers awaiting transport would be completely covered and secured with waterproof tarpaulins. During transport, contaminated soils and asbestos containing materials would be covered to control dust emissions. Covering the materials during stockpile and transport would mitigate potential public exposure to dust and contamination.

**Table 4-7** identifies the protocols to identify, remove, and transport hazardous wastes and contaminated materials during construction.

### 6-4-10.3.3 INDIRECT EFFECTS

No indirect or secondary effects would result from the removal of hazardous and contaminated materials associated with the Viaduct Alternative.

### 6-4-10.3.4 CUMULATIVE EFFECTS

The removal of hazardous and contaminated materials for the Viaduct Alternative and any other redevelopment that may occur within and adjacent to the Project Area would have an overall cumulative benefit as the risks associated with future exposure to hazardous or contaminated soils and other materials would be diminished as a result of the project and cleanup of identified contaminated materials. However, environmental remediation activities would expose contaminated materials (e.g., contaminated soils, contaminated groundwater, lead-based paint, and asbestos-containing materials). The exposure, movement, staging, loading, and transport of these contaminants would have to follow all Occupational Safety and Health Administration (OSHA), USEPA, NYSDEC, and NYSDOL regulations so that any potential impacts are limited to those working on the project and who have received the appropriate training, are using personal protective equipment, and are conducting their actions following accepted practices.

The work would be completed in a manner to prevent making any future condition worse except unavoidable temporary conditions in the immediate work zone.

#### 6-4-10.3.5 MITIGATION

A Project Safety and Health Plan would be required by NYSDOT and developed by the Contractor and would identify measures to protect workers and the general public during construction (see **Chapter 4, Construction Means and Methods** and **Table 4-7**). During construction, excavated soils would be monitored for evidence of contamination, including petroleum and other odors, unnatural colors or sheen, evidence of construction and demolition debris, or elevated volatile vapor readings as measured by field screening instruments. Any materials that were identified as contaminated would be handled within a temporary work exclusion zone that restricts the area to trained and properly protected workers. A direct reading volatile vapor meter would be used by the Contractor's environmental monitor to adjust the exclusion zone limits. Dust suppression techniques would be employed if necessary. The Project Safety and Health Plan would address the concerns associated with working with hazardous and contaminated materials found in the excavation materials. Any returned soils would be certified as clean or be obtained from a virgin borrow source.

Mitigation would result in the removal and proper disposal of all contaminated materials that are excavated during construction as well as the asbestos containing materials described in **Section 6-4-9, Asbestos**. The removal of asbestos containing materials would be completed in accordance with NYSDOL ICR 56 and applicable Federal regulations (e.g., OSHA, National Emission Standards for Hazardous Air Pollutants Compliance Monitoring [NESHAPS]).

Lead-based paint concerns to protect the public from lead dust exposure would first be controlled by the actions of the contractor and use of containment and control structures and modification of construction practices. Airborne lead levels could be monitored either directly or indirectly by monitoring particulate concentrations in the atmosphere. Additional protection methods will be evaluated as necessary.

### 6-4-10.4 ENVIRONMENTAL CONSEQUENCES OF THE COMMUNITY GRID ALTERNATIVE

#### 6-4-10.4.1 PERMANENT/OPERATIONAL EFFECTS

The Community Grid Alternative would affect a total of approximately 64 bridge and ramp structures, and four buildings. A detailed assessment of each property and any building structure on that site would be completed as the design advances. Additional information on the individual property acquisitions is given in **Section 6-3-1, Land Acquisition, Displacement, and Relocation**. Sixty-six (66) of the 151 sites on the full or partial property acquisition list for this alternative were also listed as sites that have a potential to exhibit signs or have a history of contamination.

Prior to demolition, asbestos and lead-based paint surveys would be required to identify, locate, and quantify asbestos and lead-containing materials for these structures. In addition, the buildings may likely contain mercury fluorescent light bulbs and PCB light ballasts, batteries,

refrigerators/freezers that contain ozone depleting refrigerants, and miscellaneous operational and maintenance equipment, chemicals, and products. These items represent a business environmental risk and must be removed prior to demolition and reclaimed/salvaged or transported off-site for proper disposal. Environmental concerns for the demolition and replacement of the various bridges, ramps, and connecting roadways include asbestos-containing materials, lead-based paint, high intensity discharge lighting, and the possibility of encountering subsurface soil and groundwater contamination during excavation work.

The potential for encountering future contamination associated with any sites impacted by the Project would be reduced by the cleanup actions conducted during construction of the alternative. Sixty-five (65) of the properties on the acquisition list were included in the 231 total identified sites located adjacent to the I-81 corridor as locations where subsurface contamination may be encountered. Additional properties of concern, including one (1) on the acquisition list, were identified outside the I-81 corridor in the North, South or East Study areas and are shown on **Figures 6-4-10-1 through 6-4-10-19**. Areas where subsurface contamination and orphan underground storage tanks are identified would be addressed when encountered during construction for the Project.

Operationally, maintenance and cleanup of any future releases would be performed in accordance with applicable State and Federal laws and standard NYSDOT roadway operating procedures.

### 6-4-10.4.2 CONSTRUCTION EFFECTS

Subsurface contamination would be expected to be identified during construction at numerous sites within the Project Area. Sites were identified as having historical petroleum storage and sales operations, dry cleaning establishments and printers, and sites that were used for industrial manufacturing, production, and warehousing. Soils may be contaminated by petroleum products (fuels and lubricants); parts washing and cleaning solvents; antifreeze; lead and mercury from spills and illegal disposal practices; and abandoned or leaking underground tanks and are the most common environmental issue encountered along urban highway corridors.

Several dry cleaning establishments and printers were also identified along the corridor. Dry cleaning operations involve the use chlorinated volatile organic compounds and spotting chemicals, whereas printers use the same chemicals plus dyes/pigments, which often contain a variety of metals including arsenic, cyanide, and silver. Many sites were also used for industrial manufacturing, production, and warehousing with the potential for a wide range and variety of chemical materials products.

Portions of the highway alignment were also repurposed from former railroad corridors (New York Central West Shore/New York Central Railroad from Van Rensselaer Street to Beech Street for the I-690 and the Lackawanna and Western Railroad for I-81 south of East Taylor Street). Rail lines and yards often have some degree of environmental impairment from cleaning, fueling, and other operational activities through the years. Contamination typically found along railroad lines includes partially combusted fossil fuels consisting of polynuclear aromatic hydrocarbons; leachate from creosote-preserved railroad ties; pesticides used in maintenance of the corridor; strong acid or alkaline materials; spent cleaning and degreasing solvents; ignitable paint wastes; used oil; and lead contamination from older freight cars with plane bearings, as well as other

heavy metals including chromium and arsenic. In addition, the current location of Erie Boulevard East coincides with the historical location of the Erie Canal and Oswego Boulevard coincides with the historical location of the Oswego Canal. These canals were backfilled with unknown materials to allow for construction of the area roadway network.

A Phase II Site Assessment would be performed as design advances at those locations with the suspected greatest likelihood of contamination where property acquisition and/or substantial soil disturbance is proposed. These investigations would be performed to determine the presence or absence of contamination or USTs, to assist with the development of remediation cost estimates, and to select and develop procedures for the protection of on-site workers and the adjacent public during remediation work.

The scope of the environmental investigation would include drilling investigations conducted with a direct push "hydraulic" or rotary drilling rig to collect soil samples for retrieval and examination. Soil samples would be collected and analyzed for both TCL and TAL parameters for volatile, semi-volatile, pesticides, PCBs, and metals including mercury, cyanide, and hexavalent chromium. If any of the results indicate that the sample has the potential to be hazardous, the soil sample would be further analyzed under TCLP methodology (USEPA method 1311) for the parameter(s) in question. This additional TCLP analysis would allow for the determination of whether the samples meet the definition of RCRA hazardous waste. The results of these field studies would provide information to support the development of environmental remediation cost estimates and to determine budgetary allowances that should be set aside for construction.

To identify how contamination that is discovered in the field would be addressed, the Contractor would be required to prepare a site-wide Soil Management Plan prior to the start of work, outlining procedures to be followed any time evidence of contamination, and/or potential contamination, is suspected or identified. Once evidence of contamination is identified by the Contractor in the field, an environmental monitor hired by the Contractor would be on call to assist with the screening and management of soils that show signs of contamination (i.e., strange or noxious odors, unnatural colors or sheen, odors characteristic of petroleum or solvent contamination, elevated volatile vapor readings as measured by field screening instruments). These measures would assist with the protection of on-site workers, the collection of any necessary samples, and segregation of contaminated from non-contaminated soil. Ambient air would be monitored by the Contractor's environmental monitor for the protection of on-site workers and soil screening would be performed through visual observations and use of a photoionization detector or similar instrument. The environmental monitor would follow the procedures described in a Field Organic Vapor Monitoring Plan prepared by the Contractor.

During site remediation work, there would be potential for an increase in local worker and public exposures to the materials being removed (e.g., contaminated water and soil, asbestos-containing materials being abated from bridges and building structures, lead-based paint removal and disposal, the removal of identified petroleum bulk storage tanks and their associated products, etc.). A Project Safety and Health Plan would be required by NYSDOT and developed by the Contractor and would identify the various environmental remediation activities both known as well as procedures to be followed in the event of an unidentified discovery (see **Chapter 4, Construction Means and Methods** and **Table 4-7**). The plan would be prepared to include a

job hazard analysis of each identified task; assist with the identification of procedures for the protection of on-site workers and the adjacent public; describe the real-time monitoring of environmental field conditions and the collection of any necessary samples for laboratory analysis; and detail the procedures and regulations to be followed for the segregation, transport, and disposal of contaminated materials.

Ambient air quality would be monitored by the Contractor's environmental monitor for the protection of on-site workers, and soil screening would be performed through visual observations and use of a photoionization detector or similar instrument. The environmental monitor would follow the procedures described in the Project Safety and Health Plan that would be prepared by the Contractor. Elevated readings would be expected in close proximity to the active work zone and mitigated by the use of respiratory and other personal protective equipment with personal protective equipment levels adjusted based on field measurements. In addition, perimeter work zone monitoring for volatile vapors and particulates would be conducted at downwind and upwind locations to verify that any exposures are limited to adequately trained and protected personnel in the exclusion work zone. If elevated readings are recorded at the work zone limits, modifications including the implementation of engineering controls, adjustment of the exclusion zone boundary, or temporary stoppage of work would be employed.

For asbestos abatement work, an independent asbestos project monitor and air sampling technician would be present full-time as required by NYSDOL ICR 56 for the abatement of asbestos-containing materials. Their role would include monitoring work activities and practices, confirming that the workers have current certifications and approved medical clearances, and collecting daily air samples to ensure that levels are not above 0.01 fibers per cubic centimeter or the established background level, whichever is greater.

Lead-based paint abatement work would be monitored in accordance with NYSDOT standard specifications for lead removal operations. A Lead Exposure Control Plan (LECP) would be developed by the Contractor that includes practices and measures that would be implemented to ensure the safety and health of employees who may be exposed to lead during construction work. By extension this plan would be developed to protect the surrounding public. The LECP is consistent with the OSHA Lead Standard (29 CFR 1926.62) and would address all the requirements of that standard. A copy of this LECP would be maintained in all NYSDOT field offices administering contracts that include Class A, Class B or Environmental Ground/Waterway Protection work for paint removal work associated with lead-coated structural steel.

However, not all contaminated sites exhibit signs of contamination, such as petroleum odors, unnatural colors or sheen, or elevated volatile vapor readings as measured by field screening instruments. During construction, soils excavated from industrial and commercial sites identified as having the potential for contamination would be closely reviewed and characterized by the Contractor to coordinate their proper management and disposal. The establishment and use of an excavated soil laydown yard(s) would be a necessary component of the Soil Management Plan to provide a means to stockpile and test suspect soils generated during this Project. Testing of materials associated with historical industrial property uses would be conducted before releasing soils to the Contractor as unclassified excavation.

Contaminated soils would be managed in areas identified for material stockpiles or direct loaded for transport to an approved landfill. Stockpiled soils would be placed on impervious pavement or on polyethylene sheeting and covered with sheeting or an equivalent material and then properly weighted to prevent contaminated runoff from precipitation and the release of odors. Any soils stored in roll-off containers awaiting transport would be completely covered and secured with waterproof tarpaulins. During transport, contaminated soils would be covered to control dust emissions. Covering the materials during stockpile and transport would mitigate potential public exposure to dust and contamination.

**Table 4-7** identifies the protocols to identify, remove, and transport hazardous wastes and contaminated materials during construction.

### 6-4-10.4.3 INDIRECT EFFECTS

No indirect or secondary impacts would result from the removal of hazardous and contaminated materials associated with the Community Grid Alternative.

### 6-4-10.4.4 CUMULATIVE EFFECTS

The removal of hazardous and contaminated materials for the Community Grid Alternative and any other redevelopment that may occur within and adjacent to the Project Area would have an overall cumulative benefit as the risks associated with future exposure to the hazardous or contaminated soils and other materials would be diminished as a result of the project and cleanup of identified contaminated materials. However, environmental remediation activities would expose contaminated materials (e.g., contaminated soils, contaminated groundwater, lead-based paint, and asbestos-containing materials). The exposure, movement, staging, loading, and transport of these contaminants would have to follow all OSHA, USEPA, NYSDEC, and NYSDOL regulations so that any potential impacts are limited to those working on the project and who have received the appropriate training, are using personal protective equipment and are conducting their actions following accepted practices. The work would be completed in a manner to prevent making any future condition worse except unavoidable temporary conditions in the immediate work zone.

### 6-4-10.4.5 MITIGATION

A Project Safety and Health Plan would be required by NYSDOT and developed by the Contractor and would identify measures to protect workers and the general public during construction (see **Chapter 4, Construction Means and Methods** and **Table 4-7**). During construction, excavated soils would be monitored for evidence of contamination, including petroleum and other odors, unnatural colors or sheen, evidence of construction and demolition debris, or elevated volatile vapor readings as measured by field screening instruments. Any materials that were identified as contaminated would be handled within a temporary work exclusion zone that restricts the area to trained and properly protected workers. A direct reading volatile vapor meter would be used by the environmental monitor to adjust the exclusion zone limits. Dust suppression techniques would be employed if necessary. Project Safety and Health Plan would address the concerns associated with working with hazardous and contaminated

materials found in the excavation materials. Any returned soils would be certified as clean or be obtained from a virgin borrow source.

Mitigation would result in the removal and proper disposal of all contaminated materials that are excavated during construction as well as the asbestos containing materials described in **Section 6-4-9, Asbestos**. The removal of asbestos containing materials would be completed in accordance with NYSDOL ICR 56 and applicable Federal regulations (e.g., OSHA, NESHAPS). Any potential environmental effects would be limited to the trained and properly protected environmental remediation and asbestos abatement workers involved with the completion of the work.

Lead-based paint concerns to protect the public from lead dust exposure would first be controlled by the actions of the contractor and use of containment and control structures and modification of construction practices. Airborne lead levels could be monitored either directly or indirectly by monitoring particulate concentrations in the atmosphere. Additional protection methods will be evaluated as necessary.

*This page is intentionally left blank.*