SECTION 6.4.9 ASBESTOS

Asbestos-containing materials (ACM), materials containing more than 1 percent asbestos, were historically used in bridge, utility, and building construction materials. ACM may be classified as either friable (able to be crumbled, pulverized or reduced to powder by the pressure of an ordinary human hand) or non-friable. State and Federal laws and regulations address the identification, handling, removal, and disposal of ACM to protect abatement workers, the public, and the environment from improper use, removal, and disposal.

New York State Department of Labor (NYSDOL) Industrial Code Rule (ICR) 56 requires suspect ACM that would be affected or disturbed by construction work to be sampled by a NYSDOL-certified inspector and tested by an approved NYSDOH laboratory. NYSDOL ICR 56 also governs the procedures to be followed for the abatement (removal) of ACM. Federal regulations, including the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program found in 40 CFR Part 61, and various Occupational Safety and Health Administration (OSHA) regulations also apply to asbestos and its removal.

An assessment of ACM was conducted for the Project, which included a review of roadway and bridge record plans, as-built drawings, and historical ACM surveys; inspection of numerous bridges and ramp structures; and the collection of suspect ACM samples for laboratory analysis and reporting within the Project Area. Homogeneous materials for each of the structures were delineated and grouped based on the time of construction and similarity of materials. When suspect ACM were found, representative bulk samples from the homogeneous material group identified by similar color, texture, construction date, item number, and appearance were collected. In most cases, three bulk samples were collected of each homogeneous material group per NYSDOT sampling methodology.

All suspect ACM sampled were first analyzed by Polarized Light Microscopy (PLM) by NYSDOH method 198.1. All non-friable organically bound (NOB) materials (e.g., caulks, bituminous materials, waterproofing, joint compounds) were initially analyzed according to NYSDOH method 198.4, gravimetric reduction followed by PLM. NOB materials found negative by 198.4 were further analyzed by NYSDOH method 198.6, Transmission Electron Microscopy.

During the asbestos survey, all accessible bridge, ramp, and roadway areas were inspected. Access to some bridge structures and roadways was limited by the continued traffic operations through the area and coordination of field activities and is noted in the survey reports. Therefore, the samples were collected at times from the same side of the bridge or roadway, or from a limited number of piers, abutments, guide rails, etc., but are representative of the entire structure. This is because the same materials (joint compound, bond breaker, sealant) are utilized in similar locations during construction (i.e., bearing pads on top of columns, bond breaker on the top of each abutment, caulking around railing base plates and in concrete joints, waterproofing membranes, and paint) and the results of the survey for each structure are presumed applicable to all similar physical locations across the entire structure. However, the survey reports identify areas where renovations were noted during the review of the record plans and where suspect ACMs could have been removed by earlier rehabilitation activities. In addition, the survey reports identify where certain components associated with a structure (e.g., the inspection only involved looking at the underside of the bridge structure and did not include traffic lane closures and inspection of the deck) were not accessible and investigated at the time of the survey. Additional work will be required as the design advances. The detailed survey reports in the appendices identify those areas requiring further investigation.

ACM surveys for the buildings to be acquired for the Project will vary by alternative and have not yet been completed. Detailed asbestos surveys will be prepared for the affected buildings as the state finalizes purchase of each property. For the purpose of this DDR/Draft EIS, the potential for ACM in these structures can be assessed based on structures age and historical use.

All asbestos screening assessments and surveys conducted conform to the procedures in NYSDOT's TEM, Section 4.4.19, Asbestos Management, which is the standard reference for this work. All surveys are also completed in accordance with the protocols established by the USEPA and as required by NYSDOL ICR 56.

6.4.9.1 AFFECTED ENVIRONMENT

As described in **Section 6.1, Introduction**, the following four study areas were identified for the Project: the I-81 Viaduct Study Area; I-481 South Study Area; I-481 East Study Area; and, I-481 North Study Area. The four study areas are collectively referred to as the Project Area. One-hundred and nine (109) bridge structures were identified for the asbestos assessment.

Table 6.4.9-1 lists each bridge and ramp structure that was surveyed. The table identifies the bridge identification number (BIN), location name, and whether materials were sampled and tested positive for asbestos. Additional detail on each structure is found in the individual asbestos assessment reports (see **Appendix K**). As shown in **Table 6.4.9-1**, ACM were identified in many structures within the study areas.

Asbestos was also commonly used in public and commercial buildings constructed before the 1980s in the United States. While the availability and use of ACM has declined since then, products containing asbestos have not been completely banned for use or import in the U.S., and therefore, ACM are expected to be potentially associated with every building that would be affected by acquisition and demolition on this Project. A general asbestos assessment assumes that ACM could be associated with roofing materials; flooring materials; thermal system insulation; surfacing materials; and a wide variety of miscellaneous materials (e.g.,, wiring and lighting fixtures, elevator brake shoes, gaskets, sheetrock and joint compound, sealants, caulks, waterproofing and similar coatings) and may be present within the buildings to be impacted by the project.

Table 6.4.9-1

ACM Assessment for Highway Features in the Project Area

BIN	Location	ACM Identified
I-81 Viaduct Study Area		
1008489	Southbound I-81 over Route 173	No ACM identified
1031549	I-81over Colvin Street	Compressed asbestos sheet packing
103156B	I-81 Ramp to Adams Street	Compressed asbestos sheet packing
1031559	I-81 over Castle Street	No ACM identified
1031569	I-81 over Adams Street	No ACM identified
1031570	Butternut Street over I-81	No ACM identified
1031580	Spencer Street over I-81	No ACM identified
1031590	Court Street over I-81	No ACM identified
1031600	West Bear Street over I-81	No ACM identified
1031610	Hiawatha Boulevard West over I-81	No ACM identified
1049659	I-690 over Hiawatha Boulevard West	Compressed asbestos sheet packing Premolded bituminous joint filler (assumed) Caulking Compound (assumed) Waterproofing membrane (assumed)
1050001	Southbound West Street over West Genesee Street	Compressed asbestos sheet packing
1050002	Northbound West Street over West Genesee Street	No ACM identified
1050010	Herald Place over Onondaga Creek	No ACM identified
1050759	I-690 over North Geddes Street	Compressed asbestos sheet packing
1050779	I-690 over Leavenworth Street	Compressed asbestos sheet packing
1050780	Northbound West Street Ramp BB to I-690	Compressed asbestos sheet packing Caulking compound Roofing cement in joint between deck and NW wing wall
1050790	Southbound West Street Ramp DD to I-690	Compressed asbestos sheet packing
1050800	Franklin Street to West Street Ramp	No ACM identified
105080A	Westbound I-690 Ramp over West Street	Compressed asbestos sheet packing Gray caulk at base of light pole on north parapet Duct sealant compound around lighting conduit in joints on north parapet
1050821	Westbound I-690 over Onondaga Creek	Compressed asbestos sheet packing Joint sealer (between deck and cheek walls, SW corner of bridge) (2010 Survey Data)
1050822	Eastbound I-690 over Onondaga Creek	Compressed asbestos sheet packing Joint sealer (between deck and cheek walls, NE, SW and N corners of bridge) White caulking compound around guide rail base plates (2010 Survey Data)

Table 6.4.9-1 (cont'd)ACM Assessment for Highway Features in the Project Area

BIN	Location	ACM Identified
1050840	West Street to Eastbound I-690 Ramp	Compressed asbestos sheet packing
		Gray joint sealer (between deck and cheek walls, NW corner of bridge)
		(2010 Survey Data)
1050851	Westbound I-690 over Franklin Street	Compressed asbestos sheet packing
		Caulk around/under bearing pads
1050852	Eastbound I-690 over Franklin Street	Compressed asbestos sheet packing
1050910	I-690 over Salina Street	Compressed asbestos sheet packing
		Caulking compound around guide rail base plates – 6 locations
		(2012 Survey Data)
1050921	Westbound I-690 Ramp to I-81 over Willow Street	Compressed asbestos sheet packing
		Caulking compound on west abutment vertical face
1050922	I-690 over Willow Street	Compressed asbestos sheet packing
		Caulking compound on west abutment vertical face
1050950	I-690 over State Street	No ACM identified
1051000	Eastbound I-690 over I-81	Compressed asbestos sheet packing
		(1997 Survey Data)
1051030	I-690 over Townsend Street	Compressed asbestos sheet packing
1051050	I-690 over McBride Street	No ACM identified
1051061	Westbound I-690 over Catherine Street	No ACM identified
1051062	Eastbound I-690 over Catherine Street	No ACM identified
1051063	McBride Street On-Ramp to Eastbound I-690 (over Catherine Street)	No ACM identified
1051091	Westbound I-690 over Crouse Avenue	No ACM identified
1051092	Eastbound I-690 over Crouse Avenue	No ACM identified
1051119	I-690 over Lodi Street	Compressed asbestos sheet packing
		Gray railing caulk
105113A	Eastbound I-690 Ramp to Teall Avenue	Compressed asbestos sheet packing
		Gray caulk around railing mounts
1051139	I-690 over Beech Street	Compressed asbestos sheet packing
		Caulking compound around hand rail base plates on north and south parapets
1051149	I-690 over Teall Avenue	Compressed asbestos sheet packing
1051159	I-690 over Peat Street	No ACM identified
1053840	I-81 over Erie Boulevard	Compressed asbestos sheet packing
		Caulking compound
		Gray conduit gasket
1053860	I-81 over North Townsend Street	Compressed asbestos sheet packing
		Caulking compound associated with control joint
		within the parapet wall
4050050		(1997 Survey Data)
1053870	Northbound I-81 over Townsend Street	Compressed aspestos sheet packing

Table 6.4.9-1 (cont'd)ACM Assessment for Highway Features in the Project Area

BIN	Location	ACM Identified
1053881	Southbound I-81 over Willow, James, OGS, and	Compressed asbestos sheet packing
	State	Caulk compound
1053882	Northbound I-81 over Willow, James, OGS, and State	Compressed asbestos sheet packing
105388A	I-81 to Eastbound I-690 over James and OGS	No ACM identified
1053931	Westbound I-690 over West Bear Street	Compressed asbestos sheet packing
		Waterstop (assumed)
1053932	Eastbound I-690 over West Bear Street	Compressed asbestos sheet packing
1053941	Westbound I-690 over Liberty Street	Compressed asbestos sheet packing
		Bituminous joint filler (assumed)
1053942	Eastbound I-690 over Liberty Street	Compressed asbestos sheet packing
		Epoxy bonding compound (assumed)
		Bituminous joint filler (assumed)
1053969	I-690 over Van Rensselaer Street	Compressed asbestos sheet packing
1054020	I-690 over North Clinton Street	Compressed asbestos sheet packing
		Bearing pad
		Masonry coating
1064590	Westbound I-690 Ramp to Southbound I-81	Compressed asbestos sheet packing
		Caulking compound associated with the guide rail
		posts
1000574	0 11 11 101 0022 1	(1997 Survey Data)
1093571	Southbound I-481 over CSX Yard	Compressed asbestos sheet packing
		vvaterstop (assumed)
		Premoided bituminous joint filler (assumed)
4000570	Northhoused L 404 over COV Verd	Caulking compound (believed to be removed)
1093572	Northbound 1-481 over CSX Yard	Compressed aspestos sneet packing
		Promolded bituminous joint filler (assumed)
		Caulking compound (believed to be removed)
1005510	Westbound L690 over L81	Was not investigated
1095510		
1021501	Southbound I 81 over Pouto 172 Senece Turnpike	No ACM identified
1031501	Fast Clop Avopus over 181	Compressed asbestes sheet packing
1031510	East Gleff Avenue over 1-01	White caulk in abutment joint
		Grav caulk around railing supports
1031520	I-81over West Calthron Road	No ACM identified
1031529	I-81over Fast Brighton Avenue	No ACM identified
1060000	Southbound L481 over L81	No ACM identified
1060100	East Brighton Avenue over	No ACM identified
1009100	Last Bignion Avenue over	
	i-tui nailip	

Table 6.4.9-1 (cont'd)ACM Assessment for Highway Features in the Project Area

BIN	Location	ACM Identified
1069110	East Brighton Avenue over I-81 Ramps	Black fibrous wrap around water pipe insulation
		Paper over fibrous coating inside aluminum pipe
		Waterstop (assumed)
		Mastic duct sealing compound (assumed)
1069120	East Brighton Avenue over Southbound I-481	No ACM identified
1069131	Southbound I-481 over Quarry Road	No ACM identified
1069132	Northbound I-481 over Quarry Road	No ACM identified
1069141	Southbound I-481 over CSX RR	No ACM identified
1069142	Northbound I-481 over CSX RR	No ACM identified
1069151	Southbound I-481 over Jamesville Road	No ACM identified
1069152	Northbound I-481 over Jamesville Road	No ACM identified
1069160	Ramp to Southbound I-481 over Butternut Creek	No ACM identified
1069170	Ramp to Northbound I-481 over Butternut Creek	No ACM identified
I-481 East Study Area		
1002131	Southbound I-481 over Genesee Street	No ACM identified
1002132	Northbound I-481 over East Genesee Street	No ACM identified
1051081	Westbound I-690 over CSX	Compressed asbestos sheet packing
1051082	Eastbound I-690 over CSX	Compressed asbestos sheet packing
1051120	Northbound I-481 over Service Road	Compressed asbestos sheet packing
1051160	South Midler Avenue over I-690	Compressed asbestos sheet packing
		Paper over tar wrap on drain pipe
		Premolded bituminous joint filler (assumed)
		Waterstop (assumed)
1064650	Kinne Road over I-481	Compressed asbestos sheet packing
		Premolded bituminous joint filler (assumed)
1064689	Thompson Road over I-690	Compressed asbestos sheet packing
1064691	Westbound I-690 over Bridge	Compressed asbestos sheet packing
		Waterstop (assumed)
4004000	Faathaund L COO aver Dridge	Premoided bituminous joint filler (assumed)
1064692	Eastbound 1-690 over Bridge	Wetersten (assumed)
		Premolded bituminous joint filler (assumed)
1072530	Thruway Ramp over I-481	No ACM identified
1072571	Southbound I-481 over Collamer Road	No ACM identified
1072572	Northbound I-481 over Collamer Road	No ACM identified
1072581	Southbound I-481 over F Taft Road	No ACM identified
1072582	Northbound I-481 over F. Taft Road	No ACM identified
1093510	I-690 Service Road over I-481	Compressed asbestos sheet packing
1000010		Waterstop (assumed)

Table 6.4.9-1	(cont'd)
ACM Assessment for Highway Features in the Proj	ect Area

BIN	Location	ACM Identified
1093520	Eastbound I-690 Ramp over Southbound I-481	Compressed asbestos sheet packing
		Waterstop (assumed)
1093530	Southbound I-481 over Westbound I-690	Compressed asbestos sheet packing
		Waterstop (assumed)
1093540	Eastbound I-690 over Northbound I-481 Ramp	Compressed asbestos sheet packing
		Waterstop (assumed)
1093550	Northbound I-481 over Service Road to I-690	Waterstop (assumed)
1093561	Southbound I-481 over Manlius Center Road	Compressed asbestos sheet packing
1093562	Northbound I-481 over Manlius Center Road	Compressed asbestos sheet packing
		Waterstop (assumed)
1093671	Southbound I-481 over Kirkville Road	Compressed asbestos sheet packing
		Waterstop (assumed)
1093672	Northbound I-481 over Kirkville Road	Compressed asbestos sheet packing
		Waterstop (assumed)
1093681	Southbound I-481 over NYS Thruway 90	Compressed asbestos sheet packing
		Waterstop (assumed)
1093682	Northbound I-481 over NYS Thruway 90	Compressed asbestos sheet packing
		Waterstop (assumed)
	I-481 North Stud	y Area
1031711	Southbound I-481 over I-81	No ACM identified
1031712	Northbound I-481 over I-81	No ACM identified
1072591	Southbound I-481 over Northern Blvd.	No ACM identified
1072592	Northbound I-481 over Northern Blvd.	No ACM identified
1072781	Southbound I-481 over Totman Road	No ACM identified
1072782	Northbound I-481 over Totman Road	No ACM identified
1072791	Southbound I-481 over Thompson Road	No ACM identified
1072792	Northbound I-481 over Thompson Road	No ACM identified

The NESHAP regulation established by USEPA states that an inspection shall be completed for each building that will be demolished or renovated. Inspections will be performed by the NYSDOT's Consultant within the buildings identified for acquisition under the selected alternative as the state finalizes purchase of the property as the design advances.

6.4.9.2 NO BUILD ALTERNATIVE

The No Build Alternative would maintain the highway in its existing configuration with only routine maintenance and minor repairs to ensure safety of the traveling public. It would not result in the demolition of bridges, ramps, buildings, and other structures and would not disturb utilities. As such, there would no effects related to ACM associated with the No Build Alternative.

6.4.9.3 ENVIRONMENTAL CONSEQUENCES OF THE VIADUCT ALTERNATIVE

PERMANENT/OPERATIONAL EFFECTS

Implementation of the Viaduct Alternative would necessitate the removal of 24 buildings and one building-associated structure (a smokestack) and would include the rebuilding of 46 ramps and bridges.

Construction of the Viaduct Alternative would allow for the abatement and proper disposal of the identified ACM associated with the affected roadway bridges and ramps, thereby eliminating future adverse impacts associated with these materials. Furthermore, ACM associated with the various building structures impacted by this alternative would also be abated prior to demolition, eliminating future risks associated with these materials. Asbestos abatement would follow State and Federal laws and regulations. NYSDOL ICR 56 requires the use of a NYSDOL certified asbestos Project Monitor/Air Sampler hired by the owner of the structures and/or buildings to oversee the asbestos abatement process, collect area air samples for laboratory analysis, and document the work conducted by the abatement Contractor.

CONSTRUCTION EFFECTS

During the construction period, ACM that are abated would be moved from the active construction zone and transported off-site for disposal. The greatest quantity and type of ACM would likely be generated during the pre-demolition abatement activities carried out for any buildings scheduled for demolition. The materials would likely involve both friable and non-friable products. Most ACM associated with the bridges are considered non-friables, and these would be removed following NYSDOT Asbestos Blanket Variance 14. Removal of friable asbestos would follow ICR 56 unless a site-specific variance was prepared for NYSDOL approval.

The transport and disposal of ACM are covered by 6 NYCRR Part 360. Transport of asbestos would follow required transportation regulations, and NYCRR Part 364 permitted haulers would be used to transport friable materials in covered trucks. Non-friable asbestos is exempted from the regulation and does not require a waste transporter permit. Friable asbestos materials must be disposed of at a permitted solid waste landfill that is approved to accept asbestos materials. Non-friable asbestos materials must be disposed of accept asbestos materials, but will be in a different section of the landfill that is approved to accept asbestos materials, but will be in a different section of the landfill than the friable material. The general movement of these materials would cause a temporary increase in noise, dust, and vibration levels during construction. Typical control measures in construction contracts to minimize these localized effects would be implemented as discussed in **Section 6.4.4**, **Air Quality** and **Section 6.4.6**, **Noise**.

INDIRECT EFFECTS

No indirect or secondary impacts would result from the removal of ACM associated with the Viaduct Alternative.

CUMULATIVE EFFECTS

The removal of ACM for the Viaduct Alternative and/or any other redevelopment that may occur within and/or adjacent to the Project Area would have a cumulative benefit as the risks associated with exposure to the asbestos to be removed would be diminished.

MITIGATION

ACM would be removed from the project site during demolition and would be transported to a licensed handling facility in accordance with Federal and State regulations.

6.4.9.4 ENVIRONMENTAL CONSEQUENCES OF THE COMMUNITY GRID ALTERNATIVE

PERMANENT/OPERATIONAL EFFECTS

Implementation of the Community Grid Alternative would necessitate the removal of five buildings and one building-associated structure (a smokestack). The I-81 viaduct and ramps from approximately Colvin Street to I-690 would be removed, and the other highway structure and ramps within the I-81 Viaduct Study Area would be rebuilt. Highway structures along I-481 also would be reconstructed. A total of 63 ramp and bridge structures would be affected.

The Community Grid Alternative would require the abatement and proper disposal of identified ACM associated with the affected bridges and ramps and would eliminate future adverse impacts associated with these materials. ACM associated with the building structures impacted by this alternative would also be abated prior to demolition, eliminating future risks associated with these materials. Asbestos abatement would follow State and Federal laws and regulations. NYSDOL ICR 56 requires the use of a NYSDOL certified asbestos Project Monitor/Air Sampler hired by the owner of the structures and/or buildings to oversee the asbestos abatement process, collect area air samples for laboratory analysis, and document the work conducted by the abatement contractor.

CONSTRUCTION EFFECTS

During the construction period, ACM that are abated would be moved from the active construction zone and transported off-site for disposal. The greatest quantity and type of ACM would likely be generated during the pre-demolition abatement activities carried out for buildings scheduled for demolition. The materials would likely involve both friable and non-friable products. Most ACM associated with the bridges are considered non-friables, and these would be removed following NYSDOT Asbestos Blanket Variance 14. Removal of friable asbestos would follow ICR 56 unless a site-specific variance was prepared for NYSDOL approval.

The transport and disposal of ACM are covered by 6 NYCRR Part 360. Transport of asbestos would follow required transportation regulations, and NYSRR Part 364 permitted haulers would be used to transport friable materials in covered trucks. Non-friable asbestos is exempted from the regulation and does not require a waste transporter permit. Friable asbestos materials must be disposed of at a permitted landfill that is approved to accept

asbestos material. Non-friable asbestos materials must be disposed of at either a C&D or solid waste landfill that is approved to accept asbestos materials, but will be in a different section of the landfill than the friable material. The general movement of these materials would cause a temporary increase in noise, dust, and vibration levels during construction. Typical control measures in construction contracts to minimize these localized effects would be implemented as discussed in **Section 6.4.4**, **Air Quality** and **Section 6.4.6**, **Nois**e.

INDIRECT EFFECTS

No indirect or secondary impacts would result from the removal of ACM associated with the Community Grid Alternative.

CUMULATIVE EFFECTS

The removal of ACM for the Community Grid Alternative and any other redevelopment that may occur within and adjacent to the Project Area would have a cumulative benefit as the risks associated with exposure to the asbestos to be removed would be diminished.

MITIGATION

ACM would be removed from the project site during demolition and would be transported to a licensed handling facility in accordance with Federal and State regulations.