# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. ASESTOS REMOVAL</td>
<td>1</td>
</tr>
</tbody>
</table>

**PART 1:** 1

| 1.01 | Scope of Work | 1 |
| 1.02 | Special Job Conditions | 2 |
| 1.03 | Permits and Compliance | 2 |
| 1.04 | Submittals | 3 |
| 1.05 | Pre-Construction Conference | 4 |
| 1.06 | Applicable Standards and Regulations | 5 |
| 1.07 | Sequencing and Scheduling | 5 |
| 1.08 | Notices | 6 |
| 1.09 | Project Monitoring and Air Sampling | 6 |
| 1.10 | Contractor Air Sampling | 9 |
| 1.11 | Project Supervisor | 9 |
| 1.12 | Medical Requirements | 10 |
| 1.13 | Training | 10 |
| 1.14 | Respiratory Protection | 10 |
| 1.15 | Delivery and Storage | 11 |
| 1.16 | Temporary Utilities | 11 |
| 1.17 | Confidentiality Notice | 12 |

**PART 2: PRODUCTS** 12

| 2.01 | Protective Clothing | 12 |
| 2.02 | Signs and Labels | 13 |
| 2.03 | Project Log Book | 14 |
| 2.04 | Scaffolding and Ladders | 14 |
| 2.05 | Surfactant (Amended Water) | 14 |
| 2.06 | Encapsulant | 14 |
| 2.07 | Disposal Bags, Drums, and Containers | 14 |
| 2.08 | HEPA Vacuum Equipment | 15 |
| 2.09 | Power Tools | 15 |
| 2.10 | Polyethylene Sheeting | 15 |
| 2.11 | Water and Electrical | 15 |

**PART 3: EXECUTION** 15

| 3.01 | General Requirements | 15 |
| 3.02 | Personnel Decontamination Enclosure | 17 |
| 3.03 | Waste Decontamination Enclosure | 18 |
| 3.04 | Work Area Entry and Exit Procedures | 18 |
### TABLE OF CONTENTS (Continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.05</td>
<td>Work Area Preparation</td>
<td>19</td>
</tr>
<tr>
<td>3.06</td>
<td>Negative Air Pressure Filtration System</td>
<td>20</td>
</tr>
<tr>
<td>3.07</td>
<td>Removal of Asbestos-Containing Materials</td>
<td>20</td>
</tr>
<tr>
<td>3.08</td>
<td>Equipment and Waste Container Decontamination and Removal Procedures</td>
<td>21</td>
</tr>
<tr>
<td>3.09</td>
<td>Application of Encapsulant</td>
<td>22</td>
</tr>
<tr>
<td>3.10</td>
<td>Work Area Decontamination</td>
<td>22</td>
</tr>
<tr>
<td>3.11</td>
<td>Tent Enclosures</td>
<td>23</td>
</tr>
<tr>
<td>3.12</td>
<td>Glovebag Removal</td>
<td>24</td>
</tr>
<tr>
<td>3.13</td>
<td>Restoration of Utilities, Fire Stopping, and Finishes</td>
<td>25</td>
</tr>
</tbody>
</table>

**PART 4: DISPOSAL OF ASBESTOS WASTE**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.01</td>
<td>Applicable Regulations</td>
<td>25</td>
</tr>
<tr>
<td>4.02</td>
<td>Transportation and Disposal Site</td>
<td>25</td>
</tr>
<tr>
<td>4.03</td>
<td>Waste Storage Containers</td>
<td>26</td>
</tr>
<tr>
<td>4.04</td>
<td>Owner's and Hauler's Asbestos Waste Manifests</td>
<td>27</td>
</tr>
</tbody>
</table>

**APPENDICES**

Appendix I  Work Area Site Plans
SECTION I: ASBESTOS REMOVAL

PART 1:

1.01 SCOPE OF WORK

A. This asbestos abatement project will consist of the removal and disposal of asbestos-containing material (ACM) from the locker rooms of the Capital District Transportation Authority (CDTA) Facility located at 110 Watervliet Avenue, Albany, Albany County, New York. The project will also include the removal of non-ACM ceiling tiles, hard pan suspended ceilings, and/or wet walls to facilitate access to pipe thermal system insulation (TSI) that is located above the suspended ceiling systems and may also be behind the wet walls.

B. The work area is located throughout the locker rooms of the subject building, as depicted on the attached Work Area Site Plan contained in Appendix I. The work shall include, but not be limited to, the removal of various forms of ACM, as outlined below.

Lockers Rooms Area

Removal of approximately 40 linear feet of mudded fitting pipe TSI and 150 square feet of floor tile and associated mastic following the sequential abatement section of New York State Industrial Code Rule (NYCRR) Part 56-8.6. This will also include the removal of the non-ACM suspended ceiling systems and access holes within the wet walls to expose the mudded fitting TSI which must be removed after preparation of the work area as outlined in NYCRR Part 56-7.11(f)(4) and disposed of accordingly.

C. Work is scheduled to be completed in two phases. Phase 1 shall include Rooms 001, 002, 002A, 003, 009, 010, 011, and 012, and is scheduled to commence in 2015. Phase 2 shall include Rooms 004, 005, 006, 007, and 008, and is scheduled to commence in 2016.

D. The Contractor shall be aware of all conditions of the project, including removal of non-ACM materials, isolated removals, enclosure materials and requirements, etc., and is responsible for verifying quantities and locations of all work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the work.

E. All work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. The information contained in this document, will be considered part of the Project Documents. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent procedures shall apply.

F. Working hours may be limited and shall be approved by the Owner. Asbestos abatement activities, including, but not limited to, Work Area preparation, gross removal activities, cleaning activities, waste removal, etc., may need to be performed during ‘off-hours’ (including nights and weekends) to accommodate the project schedule. The Contractor shall coordinate all work with the Owner.
and Environmental Consultant, hereafter referred to as the Consultant, regarding scheduling.

1.02 SPECIAL JOB CONDITIONS

A. The Contractor shall preserve and protect wall and ceiling finishes, electrical equipment, and heating and ventilation equipment present within the Work Area that is not removed or abated. The contractor will be responsible for all costs associated with the repair of damaged areas of wall and ceiling finishes and equipment (i.e. tape marks, damaged ceiling tiles, water damage etc.) that are caused by the direct result of the asbestos abatement work.

B. The building is active and/or occupied. Selected areas of the facility are restricted and shall not be occupied by the Contractor.

1.03 PERMITS AND COMPLIANCE

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, and persons and property adjacent to the Work Area.

B. The contractor shall perform asbestos related work in accordance with New York State (NYS) Industrial Code Rule 56, 40 CFR 61, and 29 CFR 1926, as specified herein. Where more stringent requirements are specified, adherence is required to the more stringent requirements.

C. The Contractor must maintain current licenses pursuant to NYS Department of Labor (NYSDOL), U.S. Environmental Protection Agency (EPA), and NYS Department of Environmental Conservation (NYSDEC) for all work related to this Project, including the removal, handling, transport, and disposal of ACM.

D. The Contractor (or qualified subcontractor) shall possess a valid Waste Transporter Permit, issued by the NYSDEC pursuant to 6 NYCRR Part 364, to transport waste material from the site to a storage or disposal facility. The permit shall include the name and location of each storage and/or disposal facility, and a list of all transport vehicles.

E. The Contractor shall be responsible for all fees related to the asbestos abatement work, including, but not limited to, licenses; project notifications; and Worker certifications. CDTA shall be responsible for permits and variance petitions, applications, and re-openings.

F. The Contractor must have, and submit proof upon request, persons employed to engage in or supervise work on the Project that hold a valid NYSDOL asbestos handling certificate pursuant to Industrial Code Rule 56, and valid NYSDOH 2832 form pursuant to 40 CFR, Part 763.

G. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable to the Project. The Contractor shall pay all royalties and/or license fees. The Contractor shall defend all suits or claims for infringement of
any patent rights and save the Owner and Consultant harmless from loss, including attorney's fees, on account thereof.

H. The Contractor may, at their own cost, petition applicable regulatory agencies for, obtain, and use site-specific variance(s) to conduct the asbestos abatement work. Should the Contractor choose to apply for any variance, all conditions and provisions of the site-specific variance are subject to the review and approval of the Consultant.

I. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided; however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

1.04 SUBMITTALS

A. The Contractor shall submit a Certificate of Insurance with the proposal submittal package. If awarded the project, the Contractor shall name the owner as additionally insured.

B. Pre-Work Submittals: Within fourteen (14) days prior to the pre-construction conference, the Contractor shall submit three (3) copies of the documents listed below:

1. Contractor license issued by the NYSDOL
2. A list of projects performed within the past two years, including the dollar value of all projects
3. Progress Schedule:
   a. Show the complete sequence of abatement activities and the sequencing of work within each building or building section
   b. Show the dates for the beginning and completion of each major element of work, including substantial completion dates for the Work Area, building, or phase
4. Project Notifications: As required by Federal and State regulatory agencies together with proof of transmittal (i.e., certified mail return receipt)
5. Building Occupant Notification: As required by regulatory agencies
6. Abatement Work Plan: Provide plans that clearly indicate the following:
   a. Work Area/containments numbered sequentially
   b. Locations and types of all decontamination enclosures
   c. Entrances and exits to the Work Area/containments
   d. Type of abatement activity and techniques for each Work Area and containment
   e. Number and location of negative air units and exhaust, and calculation verification determining the number of required negative air pressure units
   f. Proposed location and construction of storage facilities and field office
   g. Location of water and electrical connections to building services
   h. Waste transport routes through the building to the waste storage container
7. Disposal Site/Landfill Permit from applicable regulatory agency
8. NYSDEC Waste Transporter Permit

C. On-Site Submittals: Refer to Part 3.01.D for all submittals, documentation, and postings required to be maintained on-site during abatement activities.

D. Project Close-out Submittals: Within 30 days of Project completion, the Contractor shall submit two copies of the documents listed below to the Consultant. One set of the documents shall be forwarded to the Owner.

1. **Originals** of all waste disposal manifests, seals, and disposal logs
2. The Occupational Safety and Health Administration (OSHA) compliance air monitoring records conducted during the Work
3. Daily progress log, including the entry/exit log
4. A list of all Workers used in the performance of the project, including name, NYSDOL certification number and expiration date, and NYSDOH 2832 number and expiration date
5. For each Worker used in the performance of the project, submit the Worker’s Acknowledgment Statement
6. Disposal Site/Landfill Permit from applicable regulatory agency
7. Final project notifications

**1.05 PRE-CONSTRUCTION CONFERENCE**

A. Prior to start of preparatory work under this Contract, the Contractor shall attend a pre-construction conference scheduled by the Owner.

B. The Agenda for this conference shall include, but not necessarily be limited to, the following:

1. Contractor’s scope of work, Work Plan, and schedule that includes number of workers and shifts
2. Contractor’s safety and health precautions, including protective clothing and equipment and decontamination procedures
3. Consultant’s duties, functions, and authority
4. Contractor’s work procedures, including the following:
   a. Methods of job site preparation and removal methods
   b. Respiratory protection
   c. Disposal procedures
   d. Clean-up procedures
   e. Fire exits and emergency procedures
5. Contractor’s required pre-work and on-site submittals, documentation, and postings
6. Contractor’s plan for 24-hour project security both for prevention of theft and for barring entry of unauthorized personnel into Work Areas
7. Temporary utilities
8. Handling of furniture and other moveable objects
9. Storage of removed ACM
10. Waste disposal requirements and procedures, including use of the Owner supplied waste manifest and container seals

C. In conjunction with the conference, the Contractor shall accompany the Owner on a pre-construction walk-through to document existing condition of finishes
and furnishings and review overall Work Plan, location of fire exits, fire protection equipment, water supply, and temporary electric tie-in.

1.06 APPLICABLE STANDARDS AND REGULATIONS

A. The Contractor shall comply with the codes and standards listed below, except where more stringent requirements are shown and/or specified.

B. Federal Regulations:

1. 29 CFR 1910.1001, "Asbestos" (OSHA)
2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
5. 29 CFR 1926, "Construction Industry" (OSHA)
6. 29 CFR 1926.1101, "Asbestos, Template, Anthophyllite, and Actinolite" (OSHA)
7. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
8. 40 CFR 61, Subpart A, "General Provisions" (EPA)
9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
10. 40 CFR, Part 763, Subpart E "Asbestos-Containing Materials in Schools" (EPA)
11. 49 CFR 171-172, “Transportation Standards” (NYSDOT)

C. New York State Regulations:

1. 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (NYSDOL)
2. 6 NYCRR, Parts 360, 364, “Disposal and Transportation” (NYSDEC)
3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (NYSDOH)

D. Standards and Guidance Documents:

2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
3. EPA 560/585-024, Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book)
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance

1.07 SEQUENCING AND SCHEDULING

A. Schedule abatement activities 24 hours a day, 7 days per week, as necessary to complete abatement activities, as required to meet the project schedule. Advise the Consultant of any changes in hours or days that the Contractor will be on-site, at least 12 hours prior to such change. The Contractor retains all liability resulting from Contractor’s failure to make the required notification.

B. Selected Work Areas will have energized systems operating (natural gas, telephone, fiber optic, cable, electricity, steam and condensate return lines,
hot and cold domestic waterlines, etc.). The Contractor shall coordinate with the Owner regarding these energized systems prior to commencing abatement activities.

1.08 NOTICES

A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.

1. At least 10 working days prior to beginning abatement activities, send written notification to:
   U.S. Environmental Protection Agency
   National Emissions Standards for Hazardous Air Pollutants Coordinator
   26 Federal Plaza
   New York, New York 10007

2. At least 10 working days prior to beginning abatement activities, send written notification to:
   New York State Department of Labor
   Division of Safety and Health, Asbestos Control Program
   State Office Campus
   Building 12 - Room 454
   Albany, New York 12240

B. The Contractor is required to send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

C. The Contractor shall post and/or provide Building Occupant Notification at least 10 days prior to beginning abatement activities, as required by NYS Industrial Code Rule 56. The posting shall include the following information.

1. The locations of the abatement project
2. The amounts and types of ACM being abated;
3. The commencement and completion dates of the project
4. The name, address, and asbestos license number of the Abatement Contractor
5. The name, address, and asbestos license number of the Consultant
6. The name, address, and NYSDOH Environmental Laboratory Approval Program (ELAP) number of the laboratory providing analytical services

1.09 PROJECT MONITORING AND AIR SAMPLING

A. The Owner shall engage the services of a Consultant who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement period.

B. The Contractor is required to ensure cooperation of its personnel with the Consultant for the air sampling and Project Monitoring functions described below. The Contractor shall comply with all direction given by the Consultant during the course of the project.
C. The Consultant shall provide the following administrative services:

1. Review and approve or disapprove all submittals, shop drawings, schedules, and samples.
2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.

D. The Consultant shall staff the project with a trained and certified person(s) to act on the Owner's behalf at the job site. This individual shall be designated as the Abatement Project Monitor (APM).

1. The APM shall be on-site at all times during which the Contractor is on-site. The Contractor shall not be permitted to conduct any work unless the APM is on-site.
2. The APM shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the project documents and regulations. The APM shall have the authority to stop work when gross work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed 0.01 f/cc or background level, whichever is higher.
   a. Such stop work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
   b. Standby time required to resolve the situation shall be at the Contractor's expense.
3. The APM shall provide the following services.
   a. Observation of the Contractor's work practices and procedures, including temporary protection requirements, for compliance with all regulations and project specifications.
   b. Provide abatement project air sampling as required by applicable regulations (NYSDOL) and the Owner. Sampling will include background, work area preparation, abatement, and clearance sampling.
   c. Verify daily that all Workers used in the performance of the project are certified by the appropriate regulatory agencies.
   d. Monitor the progress of the Contractor's work, and report any deviations from the schedule to the Owner.
   e. Monitor, verify, and document all waste load-out operations.
   f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
   g. The APM shall maintain a log that documents all project-related decisions, actions, activities, and occurrences.
4. The following minimum assessments shall be conducted by the APM. Additional assessments shall be conducted as required by project conditions. Progression from one phase of the work to the next by the Contractor is only permitted with the written approval of the APM.
a. Pre-Construction Assessment: The purpose of this assessment is to verify the existing conditions of the Work Area and to document these conditions.

b. Pre-Commencement Assessment: The purpose of this assessment is to verify the integrity of each containment system prior to disturbance of any ACM. This assessment shall take place only after the Work Area is fully prepared for removal.

c. Abatement Assessments: The purpose of these assessments is to monitor the work practices and procedures employed on the project and to monitor the continued integrity of the containment system. Assessments within the removal areas shall be conducted by the APM during all preparation, removal, and cleaning activities at least twice every work shift. Additional assessments shall be conducted as warranted.

d. Pre-Encapsulatation Assessment: The purpose of this assessment is to ensure the complete removal of ACM from all surfaces in the Work Area prior to encapsulation.

e. Visual Clearance Assessment: The purpose of this assessment is to verify the Contractor's certification that all materials have been removed from the Work Area and the absence of all visible accumulations of debris in the Work Area. This assessment shall be conducted after encapsulation and removal of all surface plastic in the area, except for critical barriers, but before final air clearance testing. This assessment shall be conducted in general accordance with ASTM E 1368 “Standard Practice for Visual Inspection of Asbestos Abatement Projects”.

f. Post-Clearance Assessment: The purpose of this assessment is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all critical barriers and equipment from the Work Area.

E. The Consultant shall provide abatement project air sampling and analysis as required by applicable regulations (NYSDOL). Sampling will include background, work area preparation, abatement, and clearance sampling.

1. Unless otherwise required by applicable regulations, the Consultant shall have samples analyzed by phase contrast microscopy (PCM). Results shall be available within 24 hours after completion of sampling.

2. For large and small projects, samples shall be collected as required by applicable regulations (NYSDOL).

3. For tent removals, a minimum of at least one clearance sample shall be collected in each minor size project tent. Additional samples shall be collected in accordance with small or large project requirements if cumulative project quantities exceed those of a minor project.

4. If the air sampling during abatement reveals airborne fiber levels at or above 0.01 fibers/cc or the background level (whichever is greater) outside the Work Area, then the Consultant shall issue an immediate stop work order. The Contractor shall then inspect the barriers for leakage and HEPA vacuum and/or wet clean the surface outside the Work Area. The Contractor shall bear the burden of any and all costs incurred by this delay.
5. Clearance air sampling shall be performed by PCM in accordance with 12 NYCRR, Part 56-9.2.
6. Should any clearance sample(s) fail to meet clearance criteria, the Contractor will be directed to re-clean the work area, and new clearance air samples will be collected. The Contractor shall be responsible for any and all costs incurred due to clearance sample failures.
7. The Consultant shall submit copies of all final air clearance results to the NYSDOL at the completion of the project.

1.10 CONTRACTOR AIR SAMPLING

A. The Contractor shall be responsible for air sampling and personal air monitoring pursuant to the requirements of OSHA 1926.1101, in order to determine that appropriate respiratory protection is being worn and utilized.

1.11 PROJECT SUPERVISOR

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:

1. The Project Supervisor must hold a current New York State certification as an Asbestos Contractor Supervisor.
2. The Project Supervisor must meet the requirements of a “Competent Person”, as defined by OSHA 1926.1101, and shall have a minimum of 5 years experience as a Supervisor.
3. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.

B. If the Project Supervisor is not on-site at any time whatsoever, all work will be stopped. The Project Supervisor will remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Consultant. The Project Supervisor will be removed from the Project if so requested by the Owner.

C. The Project Supervisor will maintain the Project Log Book in accordance with 12 NYCRR, Part 56-7.3 and the Waste Disposal Log required by Section 4.04 of this specification.

D. The Project Supervisor will be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor will be the primary point of contact for the APM.

E. The OWNER reserves the right to select the project supervisor that will be overseeing the project for the Contractor. The OWNER will review resume’s of the contractor’s supervisors and make selections based on qualifications and similar job descriptions.

1.12 MEDICAL REQUIREMENTS

A. Before potential exposure to airborne asbestos fibers, the Contractor shall provide Workers with a comprehensive medical examination, as required by 29 CFR 1910.1001 and 29 CFR 1926.1101.
1. This examination is not required if adequate records show the employee has been examined, as required by 29 CFR 1910.1001 and 29 CFR 1926.1101, within the past year.

2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within 30 calendar days before or after the termination of employment in such occupations.

B. As required by 29 CFR 1910.1001 and 29 CFR 1926.1101, the Contractor shall maintain complete and accurate records of employees’ medical examinations for a period of 30 years after termination of employment and make records of the required medical examinations available for inspection and copying to: Assistant Secretary of Labor for Occupational Safety and Health, Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of these, and an employee’s physician upon the request of the employee or former employee.


1.13 TRAINING

A. As required by applicable regulations, prior to assignment to asbestos work, instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.


1.14 RESPIRATORY PROTECTION

A. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on-site for each employee.

C. The Contractor must provide adequate surveillance of working conditions to ensure the respirator selected provides adequate protection, as defined in 29 CFR 1926.1101. Half-face respirators are the minimum allowable respiratory protection permitted to be utilized during asbestos abatement.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.
E. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

F. A storage area for respirators shall be provided by the Contractor in the clean room side of the personal decontamination enclosure, where the respirators will be kept in a clean environment.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters, so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one 8-hour work day.

I. Any authorized visitor, Worker, or Supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and not be permitted to return.

1.15 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original packages, with containers bearing manufacturer's name and label.

B. Store all materials at the job site in a suitable and designated area.

1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
2. Protect materials from unintended contamination and theft.
3. Storage areas shall be kept clean and organized.

C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.16 TEMPORARY UTILITIES

A. Shut down and lock out all electrical power to the asbestos Work Area.

B. Provide temporary 120-240 volt, single phase, three-wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos Work Area.

1. Where available, obtain a power supply from the Owner's existing system. Otherwise, provide power from other sources (i.e., generator).
2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
3. Provide wiring and receptacles as required by the Consultant for air sampling equipment.
4. All power to the Work Area shall be brought in from outside the area through GFCI at the source.

C. Provide temporary lighting with "weatherproof" fixtures for the Work Area, including decontamination chambers.
   1. The entire Work Area shall be kept illuminated at all times.
   2. Provide lighting, as required by the Consultant, for the purpose of performing required visual assessments.

D. All temporary devices and wiring used in the Work Area shall be capable of withstanding decontamination procedures, including HEPA vacuuming and wet-wiping.

E. Utilize domestic water service, if available, from Owner’s existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

1.17 CONFIDENTIALITY NOTICE

A. The Contractor’s employees, agents, supplier, or subcontractors shall not engage in written or oral communication with the population of the Owner. All inquiries shall be referred to the Owner or the Consultant.

PART 2: PRODUCTS

2.01 PROTECTIVE CLOTHING

A. The minimum personal protective equipment is Level D Modified (hard hat, safety glasses, and steel-toed boots), at all times at the project site both inside and outside of the Work Areas.

B. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves, and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

C. Provide sufficient quantities of protective clothing to assure a minimum of 4 complete disposable outfits per day for each individual performing abatement Work.

D. Eye protection and hard hats shall be provided and made available for all personnel entering the Work Area.

E. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.
2.02 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to the asbestos Work Area. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum size of 20-inch by 14-inch, and displaying the following legend:

   DANGER
   ASBESTOS
   CANCER AND LUNG DISEASE HAZARD
   AUTHORIZED PERSONNEL ONLY
   RESPIRATORS AND PROTECTIVE CLOTHING
   ARE REQUIRED IN THIS AREA

2. Provide 3-inch wide yellow barrier tape printed with black letters, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances, and access routes to asbestos Work Area. Install tape 3 to 4 feet above finish floor.

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

   DANGER
   CONTAINS ASBESTOS FIBERS
   AVOID CREATING DUST
   CANCER AND LUNG DISEASE HAZARD

2. Provide the following asbestos label, of sufficient size to be clearly legible, for display on waste containers (bags or drums) that will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172.

   RQ HAZARDOUS
   SUBSTANCE
   SOLID, NOS
   ORM-E, NA 9188
   ASBESTOS

3. Generator identification information shall be affixed to each waste container, indicating the following and printed in indelible ink.

   Generator Name: CDTA
   Facility Building Name: 110 Watervliet Facility
   Facility Address: Albany, New York
   Date Placed in Holding Area: MM/DD/YYYY
2.03 PROJECT LOG BOOK

A. Provide a permanently bound project log book. The log book shall contain, on the title page, the project name; name, address, and telephone number of Owner; name, address, and telephone number of Consultant; name, address, and telephone number of the Contractor; and emergency numbers, including, but not limited to, local Fire/Rescue Department.

B. All entries into the log shall be made in non-washable, permanent ink, and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the log and include name, employer, NYSDOL certification number, and time of entrance and exiting.

D. The Project Supervisor shall document all Work performed daily and note all visual assessments required by NYS Industrial Code Rule 56 (e.g., testing and inspection of barriers and enclosure by smoke testing, negative air systems, and manometer readings).

2.04 SCAFFOLDING AND LADDERS

A. Provide all scaffolding and/or staging, as necessary, to accomplish the work of this Contract. The type, erection, and use of all scaffolding and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Consultant for the purposes of performing required inspections.

2.05 SURFACTANT (AMENDED WATER)

A. Wet all ACM prior to removal with surfactant mix, and apply in accordance with manufacturer's printed instructions.

2.06 ENCAPSULANT

A. Encapsulant shall be tinted or pigmented, so that application when dry is readily discernible.

2.07 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30- or 55-gallon capacity fiber or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.
C. Containers and bags must be labeled with the names of the waste generator and the location at which the waste was generated, in accordance with 40 CFR Part 61 NESHAPS.

D. Containers and bags must be labeled with the date that they are moved from the waste decontamination enclosure to the waste transport container, in accordance with 12 NYCRR, Part 56-8.9(C)(3).

E. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not, shall be handled and disposed of as ACM waste.

2.08 HEPA VACUUM EQUIPMENT

A. All vacuuming performed under this contract shall be performed with HEPA filter-equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment, including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

2.09 POWER TOOLS

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

2.10 POLYETHYLENE SHEETING

A. All polyethylene (plastic) sheeting used on the project (including, but not limited to, sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, and waste container) shall be at least 6 mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting. At least 2 layers of 6 mil reinforced fire retardant plastic sheeting shall be used for the flooring.

2.11 WATER AND ELECTRICAL

A. Water and electrical service shall be furnished by the Owner without charge. The Contractor shall verify suitability and location of all hookups.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Should the area beyond the Work Area become contaminated with ACM or elevated fiber levels, immediately stop work and institute emergency procedures. Contaminated Non-Work Areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred from decontaminating such Non-Work Areas and the contents thereof shall be borne solely by the Contractor, at no additional cost to the Owner.
B. Medical approval, fit test reports, Worker Acknowledgments, and NYSDOL certificates shall be on-site prior to admittance of any Contractor’s employees to the asbestos Work Area.

C. Perform all asbestos removal work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer’s written instructions. Dry removal procedures are not permitted.

D. The following submittals, documentation, and postings shall be maintained on-site during abatement activities at a location approved by the APM.

1. Valid Contractor license issued by NYSDOL.
2. Certification, Worker Training, Medical Surveillance, and Acknowledgments:
   a. Current New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
   b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
   c. Documentation that Workers have been fit tested specifically for respirators used on the project.
   d. Workers’ Acknowledgments: Statements signed by each employee that the employee has received training in the proper handling of ACM; understands the health implications and risks involved; and understand the use and limitations of the respiratory equipment to be used.
3. Daily OSHA personal air monitoring results
4. NYSDOH ELAP certification for the laboratory that will be analyzing the OSHA personnel air samples.
5. NYSDEC Waste Transporter Permit
6. Project documents (specifications and drawings)
7. Notifications and variances (site-specific); ensure that the most up-to-date notifications and variances are on-site
8. Applicable regulations
9. Material Safety Data Sheets of supplies/chemicals used on the project.
10. Approved Abatement Work Plan
11. List of emergency telephone numbers
12. Waste Disposal Log
13. Project Log Book

E. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

F. All demolition necessary to access ACM for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris must be disposed of as asbestos waste.
3.02 PERSONAL DECONTAMINATION ENCLOSURE

A. Provide personal decontamination enclosure contiguous to the Work Area. The decontamination enclosure shall be attached to the Work Area and shall be fully framed and sheathed to prevent unauthorized entry.

B. For large asbestos projects, access to the Work Area will be from the clean room through an airlock to the shower, followed by an airlock to the equipment room to the Work Area. For small asbestos projects, access to the Work Area will be from the clean room, to the shower, and through the equipment room to the Work Area. Each airlock shall be a minimum of 3 feet from door to door.

C. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of 6 mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the Work Area.

E. The entrance to the clean room shall have a lockable door. The clean room shall be sized to accommodate all full-shift workers and the Consultant. The minimum dimensions of the clean room shall be 32 square feet for every 6 full-shift workers and 6 feet in height. Provide suitable lockers for storage of Workers’ street clothes. Storage for respirators, along with replacement filters and disposable towels, shall also be provided.

F. Provide a temporary shower, with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There shall be one shower for every six full shift abatement workers. The shower room shall be constructed in such a way so that travel through the shower chamber shall be through the shower. The shower shall not be able to be bypassed.

G. Shower water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability, containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered wastewater shall then be discharged in accordance with applicable codes, and the contaminated filters shall be disposed of as asbestos waste.

H. The equipment room shall be used for the storage of tools and equipment. A walk-off pan filled with water shall be located in the Work Area outside the equipment room for Workers to clean foot coverings when leaving the Work Area. A labeled 6 mil plastic ACM waste bag for collection of contaminated clothing shall be located in this room.

I. The personal decontamination enclosure shall be cleaned and disinfected, at a minimum, at the end of each Work shift and as otherwise directed by the APM.
3.03 WASTE DECONTAMINATION ENCLOSURE

A. Provide a waste decontamination enclosure contiguous to the Work Area. The decontamination enclosure shall be attached to the Work Area and not located within it. The decontamination chamber shall be fully framed and sheathed to prevent unauthorized entry.

B. The waste decontamination enclosure system shall consist of a washroom/cleanup room to the Work Area and an airlock doorway to the holding area. The airlock shall be a minimum of 3 feet from door to door. The entrance to the holding area shall have a lockable door.

C. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of 6 mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the Work Area.

E. Where there is only one egress from the Work Area, the holding area of the waste decontamination enclosure system may branch off from the personal decontamination enclosure equipment room, which then serves as the waste wash room.

F. Shower water shall be drained, collected, and filtered through a multi-stage filtering system with at least a 5.0 micron particle size collection capability containing filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered wastewater shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

3.04 WORK AREA ENTRY AND EXIT PROCEDURES

A. Access to and from the asbestos Work Area is permitted only through the personal decontamination enclosure, unless otherwise stipulated in a site-specific or applicable variance.

B. Workers shall sign the entry/exit log upon every entry and exit.

C. The following procedures shall be followed when entering the Work Area.

1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.

D. The following procedures shall be followed when exiting the Work Area.
1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning, and/or HEPA vacuuming.
2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
3. Workers shall shower thoroughly while wearing respirators, and then wash respirator with soap and water prior to removal.
4. Upon exiting the shower, Workers shall don new disposable clothing if the Work shift is to continue or street clothes to exit the area. Under no circumstances shall Workers enter public, Non-Work Areas in disposable protective clothing.

3.05 WORK AREA PREPARATION

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exit signs only on the Work Area side at the containment, and post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tape shall be utilized in addition to caution signs.

B. Shut down and lock out the building heating, ventilating, and air conditioning and electrical systems. Provide temporary electric power and lighting as specified herein.

C. All surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.

D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with 2 layers of polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building, in accordance with the approved Asbestos Work Plan and as specified herein.

G. Seal off all openings, including, but not limited to, windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using 2 layers of at least 6 mil polyethylene sheeting to form a critical barrier.

H. Provide temporary framing and sheathing at openings larger than 32 square feet that form the limits of the asbestos Work Area. Sheathing thickness must be a minimum of 3/8-inch, and all sheathing shall be caulked and the Work Area side sealed with 2 layers of 6 mil polyethylene sheeting to form an isolation barrier.

I. Sheeting shall be secured with spray adhesive and then sealed with duct tape. All joints in polyethylene sheeting shall overlap 12 inches minimum.
J. Frame out emergency exits. Provide double-layered 6 mil polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the Work Area, mark the locations and directions of emergency exits throughout the Work Area, using exit signs and/or duct tape.

K. Remove all items attached to or in contact with ACM only after the Work Area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to removal from the Work Area and before the start of asbestos removal operations.

3.06 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.04 inches of water column within all full enclosure areas relative to adjacent unsealed areas, and that provides a minimum of 6 air changes per hour in the Work Area during abatement.

B. Such filtration systems must be operated 24 hours per day during the entire Project, until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. The system shall include a series of pre-filters and filters to provide HEPA filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit(s) filter changing and in case of primary failure. There shall be at least one back-up unit for every five primary units.

I. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the Work Area, including the decontamination enclosures, shall be sealed.

J. The Contractor shall provide a manometer with a chart recorder to measure and record negative pressure differential across the Work Area barriers without interruption 24 hours per day for all OSHA class I friable asbestos projects.

3.07 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. ACM shall be removed in accordance with the Contract Documents and the approved Asbestos Work Plan.

B. Sufficiently wet asbestos materials with a low pressure, airless fine spray of surfactant to ensure full penetration prior to ACM removal. Re-wet materials that do not display evidence of saturation.
C. A sufficient number of Workers shall continuously apply amended water while ACM is being removed. Excess water must be contained within the Work Area at all times and should be continuously containerized through the use of a HEPA equipped wet/dry vacuum or other adequate methods.

D. Perform cutting, drilling, abrading, or any penetration or disturbance of ACM in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power-operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

E. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain Work Area surfaces free of accumulation of asbestos debris.

F. Power or pressure washers are not permitted for asbestos removal or clean-up procedures.

G. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.

H. All construction and demolition debris determined by the Consultant to be contaminated with asbestos shall be handled and disposed of as asbestos waste.

I. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.08 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. The Work Area personnel shall not enter the airlock.

B. The containers and equipment shall be removed from the airlock by personnel stationed in the wash room during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting, dependent upon the physical characteristics of the item, and sealed airtight.

D. The clean re-containerized items shall be moved into the airlock that leads to the holding area. Workers in the wash room shall not enter this airlock or the Work Area until waste removal is finished for that period.
E. Containers and equipment shall be moved from the airlock and into the holding area by personnel dressed in clean personal protective equipment, and who have entered from uncontaminated areas.

F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

G. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

H. Where the waste removal enclosure is part of the personal decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

3.09 APPLICATION OF ENCAPSULANT

A. After the first cleaning has been completed and the Work Area has been rendered free of visible residues, a thin coat of encapsulant shall be applied to any surfaces in the Work Area that were not the subject of removal.

B. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.

C. Encapsulants shall be pigmented or tinted to provide an indication for completeness of coverage. The APM shall determine adequacy of coverage.

3.10 WORK AREA DECONTAMINATION

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed, unless modified by a site-specific or applicable variance.

B. First Cleaning

1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and may either be decontaminated prior to removal from the Work Area or disposed of as asbestos waste.
3. The APM shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
4. The Contractor shall then apply a coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
5. After the encapsulant has dried, the Work Area shall be vacated for a minimum of 12 hours.
6. Final clearance air sampling shall then be conducted by the Consultant.
7. Upon receipt of satisfactory final clearance air sampling results, the negative air pressure equipment can then be shut down and decontamination areas and isolation and critical barriers removed.

C. After isolation and critical barriers are removed, the Consultant shall inspect the Work Area for cleanliness. If necessary, additional cleaning shall be performed by the Contractor, as directed by the Consultant.

D. As a result of any unsatisfactory visual assessment by the Consultant, or should final clearance air sampling results indicate high fiber levels, the Contractor will clean or re-clean the affected areas at no additional expense to the Owner.

3.11 TENT ENCLOSURES

A. Tent enclosures may only be used in areas specifically permitted by NYS Department of Labor Code Rule 56 or a project site-specific variance issued by the NYS Department of Labor.

B. The Contractor shall restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

C. The Contractor shall not construct or utilize remote personal and waste decontamination enclosure systems. The personal and waste decontamination enclosure systems shall be connected to the Work Area.

D. The Work Area shall be pre-cleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with 2 layers of 6 mil polyethylene and tape.

E. The tent shall be a single-use barrier constructed with a rigid frame and at least two layers of 6 mil polyethylene, unless 1 layer of 6 mil polyethylene is otherwise permitted by a site-specific variance. All seams shall be sealed airtight using duct tape and/or spray adhesive.

F. During removals, negative pressure filtration units shall be used to maintain negative air pressure inside the tent.

G. OSHA compliance air monitoring is required per Section 1.09.

H. ACM removal shall follow procedures defined in Section 3.07.

I. Waste material shall be placed in properly labeled 6 mil plastic bags or other appropriate containers. The outside of the bags or containers shall be wet wiped and/or HEPA vacuumed before being passed into the waste decontamination enclosure system for double-bagging. All transportation of waste bags and containers outside the Work Area shall be in watertight carts.

J. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the decontamination procedures below shall be followed.
1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the Work Area.
3. The APM shall conduct a visual assessment of the Work Area for cleanliness and completion of abatement.
4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
5. After the encapsulant has dried, aggressive final clearance air sampling shall then be conducted by the APM.
6. Upon receipt of satisfactory final clearance air sampling results, the tent shall be collapsed into itself, placed in suitable disposal bags, and transported to the waste decontamination enclosure. Isolation and critical barriers shall then be removed.

3.12 GLOVEBAG REMOVAL

A. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications. Removal and disposals must also be conducted in conformance with all regulatory conditions.

B. The Contractor shall restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

C. The Work Area shall be pre-cleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with two (2) layers of 6 mil polyethylene and tape.

D. Glovebag removals shall utilize commercially available glovebags of at least 6 mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements:

1. The sides of the glovebag shall be cut to fit the size of the pipe being removed. Tools shall be inserted into the attached tool pocket.
2. The glovebag shall be placed around the pipe and the open edges shall be folded and sealed with staples and duct tape. The glovebag shall also be sealed at the pipe to form a tight seal.
3. Openings shall be made in the glovebag for the wetting tube and HEPA vacuum hose. The opening shall be sealed to form a tight seal.
4. All glovebags shall be smoke tested by the APM before removal operations commence. Glovebags that do not pass the smoke test shall be resealed and then retested.
5. After first wetting the materials to be removed, removal may commence. ACM shall be continuously wetted. After removal of the ACM, the piping shall be scrubbed or brushed, so that no visible ACM remains. Open ends of pipe insulation shall be encapsulated.
6. After the piping is cleaned, the inside of the glovebag shall be washed down and the wetting tube removed. Using the HEPA vacuum, the glovebag shall be collapsed and then twisted and sealed with tape with the ACM at the bottom of the bag.

7. A disposal bag shall be placed around the glovebag that is then detached from the pipe. The disposal bag is then sealed and transported to the decontamination enclosure.

E. After glovebag removals are complete, tent decontamination procedures shall be followed.

3.13 RESTORATION OF UTILITIES, FIRE STOPPING, AND FINISHES

A. Remove locks and restore electrical systems after final clearance. All temporary power shall be disconnected, power lockouts removed, and power restored. All temporary plumbing shall be removed.

B. Finishes damaged by asbestos abatement activities, including, but not limited to, plaster/paint damage due to duct tape and spray adhesives and floor tile lifted due to wet or humid conditions, shall be restored prior to final payment.

1. Finishes unable to be restored shall be replaced under this Contract by the Contractor at no additional cost to the Owner.

2. All foam and expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of abatement activities.

C. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire-rated construction shall be fire-stopped using materials and systems tested in accordance with ASTM E814 on Projects where re-insulation is part of the required work.

PART 4: DISPOSAL OF ASBESTOS WASTE

4.01 APPLICABLE REGULATIONS

A. All asbestos waste shall be stored, transported, and disposed of in accordance with the following regulations as a minimum:

1. NYSDEC 6 NYCRR part 360 and 364
2. US EPA NESHAPS 40 CFR 61
3. US EPA Asbestos Waste Management Guidance EPA/530-SW85

4.02 TRANSPORTATION AND DISPOSAL SITE

A. The Contractor's Hauler and Disposal Site shall be pre-approved by the Owner. The Contractor shall be responsible for all costs associated with the handling and disposal of all ACM waste and non-ACM waste.

B. The Contractor shall give 24-hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours, unless otherwise specified. No waste may be taken from the site, unless
the Contractor and Consultant are present and the Consultant authorizes the release of the waste, as described herein.

C. The Contractor shall have the Hauler provide the estimated date and time of arrival at the Disposal Site.

D. Upon arrival at the Project Site, the Hauler must possess and present to the Consultant a valid New York State Department of Environmental Conservation Part 364 Asbestos Hauler’s Permit. The Consultant may verify the authenticity of the Hauler’s permit with the proper authority.

E. The Hauler, with the Contractor and the Consultant, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Manifests.

F. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site, as identified on the notifications, with no unauthorized stops.

4.03 WASTE STORAGE CONTAINERS

A. All waste containers shall be fully enclosed and lockable (i.e., enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e., open dumpster with canvas cover, etc.), unless specifically permitted by an applicable or site-specific variance.

B. The Consultant shall verify that the waste storage container and/or truck tags (license plates) match that listed on the New York State Department of Environmental Conservation Part 364 permit. Any container not listed on the permit shall be removed from the site immediately.

C. The container shall be plasticized and sealed with a minimum of two (2) layers of 6 mil polyethylene on the sides and floor. Once on site, the waste container shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or contractor supplies.

D. While on-site, the container shall be labeled with EPA danger signage, as follows:

\[
\text{DANGER} \\
\text{CONTAINS ASBESTOS FIBERS} \\
\text{AVOID CREATING DUST} \\
\text{CANCER AND LUNG DISEASE HAZARD}
\]

E. The NYSDEC Asbestos Hauler’s Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.
G. The Owner may initiate random checks at the Disposal Site to insure that the procedures outlined herein are complied with.

4.04 OWNER’S AND HAULER’S ASBESTOS WASTE MANIFESTS

A. An Asbestos Waste Manifest shall be utilized in conjunction with the Asbestos Hauler's Manifest.

B. The Hauler's Manifest shall be completed by the Contractor and verified by the Consultant that all the information and amounts are accurate and the proper signatures are in place.

C. The Manifests shall have the appropriate signatures of the Contractor and the Hauler representatives prior to any waste being removed from the site.

D. Copies of the completed Hauler's Manifest shall be retained by the Consultant and the Contractor, and shall remain on site for inspection.

E. Upon arrival at the Disposal Site, the Hauler's Manifest shall be signed by the Disposal Facility operator to certify receipt of ACM covered by the manifest.

F. The Disposal Facility operator shall return the original Hauler's Manifest and the container seals to the Contractor.

G. The Contractor shall forward copies of the Owner's Hauler's Manifest to the Consultant within 14 days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.

H. The Contractor shall utilize Waste Disposal Logs. This log shall be maintained by the Project Supervisor and shall be kept on site at all times.

I. Originals of all waste disposal manifests, seals, and disposal logs shall be submitted by the Contractor to the Owner with the final close-out documentation.
APPENDIX I

Work Area Site Plan
## ABATEMENT GENERAL NOTES

1. All work shall be performed in accordance with all applicable Local, State, and Federal rules, regulations, and guidelines, variances and the Contract Documents.

2. Reference Section 02 00 00, Asbestos Abatement, of the project specifications for requirements pertaining to the abatement of asbestos-containing materials.

3. A limited asbestos survey report (ATL Report No. AT53A441-01-06-15) has been prepared for this project, and shall be referenced for details regarding sampling and analysis of suspect asbestos-containing materials.

4. All materials measurements and/or quantities and locations are approximate. Information provided on drawings is for reference only. The Contractor is responsible for verifying quantities and locations prior to providing bids and initiating abatement activities.

5. The Contractor shall coordinate all abatement and removals with scheduled demolition, renovations, and new construction. Work shall be performed to include abatement or remediation of materials that must be disturbed to accommodate the scheduled project renovations.

6. The Contractor shall preserve and protect building materials and finishes, facility equipment, and furnishings present within each work area that is not removed, abated, or scheduled for demolition. The Contractor shall perform demolition work without damage or contamination of adjacent areas. Where such areas are contaminated, specified procedures for containment must be followed, and contamination must be cleaned up. Where adjacent areas are damaged, restoration must be to original condition.

7. All work shall be performed in such a manner as to minimize the risk of exposure to personnel, to prevent exposure to occupants, and to minimize the risk of release of hazardous materials to the environment.

8. The location of any site storage of material, equipment, and waste trailer/dumpster shall be coordinated with and approved by appropriate site personnel.

9. The Contractor is responsible for all tools, equipment, and supplies. The Owner and other site personnel will not be liable for theft or damage.

10. The provisions of any site-specific variance(s) obtained by the Contractor may not be implemented until approved by appropriate site personnel.

## ABATEMENT KEY NOTES

- **Remove and dispose of asbestos-containing thermal system insulation (TSI) mudded pipe fittings.** Areas of ceilings and wet walls will require removal under containment to facilitate access to known or suspected locations of the fittings.

- **Remove and dispose of asbestos-containing floor tile and associated mastic.**

## ASBESTOS ABATEMENT SCHEDULE

<table>
<thead>
<tr>
<th>Drawing Note ID</th>
<th>Type of ACM</th>
<th>Location</th>
<th>Estimated Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>TSI Mudded Pipe Fittings</td>
<td>Above Suspended Ceilings and Behind Wet Walls</td>
<td>40 Linear Feet</td>
</tr>
<tr>
<td>02</td>
<td>Floor Tile and Associated Mastic</td>
<td>Room No. 011</td>
<td>150 Square Feet</td>
</tr>
</tbody>
</table>