

SECTION 02 82 13
ASBESTOS ABATEMENT

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Contractor is referred to the "Special Notice to Contractors Summary Form", the "Form of Proposal"; the "Form of Bid Bond"; "Division 01 – General Requirements" of the "Contract Specifications"; the "Contract Drawings" and all Amendments and Addenda thereto; all of which govern the Work of this Section.

1.02 SCOPE OF WORK

- A. The Work of this Section includes all labor, materials, equipment and services necessary to complete the required Asbestos abatement as indicated on the Drawings and/or specified herein including, but not limited to, the following:
 - 1. All measurements required for proper execution of the work is the Contractors responsibility. Before submitting bid examine all existing conditions which may impact on the work and include them in the bid price.
- B. Removing all existing asbestos:
 - 1. Plumbing Chase/Crawlspace:
Assumed contaminated pipe, joints and valve insulation at affected areas of Work. For bidding purposes, bidder shall refer to drawings to determine the linear feet of asbestos contaminated piping and provide a unit price (per Linear foot) for this work item in his/her bid.
 - 2. Asbestos containing vinyl tiles and cove base resulting from the replacement or repair of any missing or damaged tile at the New Office and Bathroom areas. Existing vinyl tiles to remain shall not be disturbed. For bidding purposes, bidder shall refer to drawings for quantity of removed/disturbed vinyl tile/cove base.
 - 3. Asbestos containing caulking and putty. For bidding purposes, bidder shall refer to drawings for quantity of removal of linear feet of assumed ACM caulking.
- C. Air Monitoring:
 - 1. Air monitoring shall be performed by an independent firm to be selected and paid for by the Housing Authority. Contractor is responsible for coordinating the abatement work with the air monitoring firm and the Asbestos Abatement Coordinator.
 - 2. Contractor is responsible for all personal air monitoring as required by D.E.P., O.S.H.A.; etc. and all other regulatory agencies having jurisdiction.
 - 3. The Contractor is to coordinate all abatement activities with the Asbestos Abatement Coordinator from the Environmental Inspection Unit section of Technical Services. The Contractor will not begin work until written notification has been issued by the Environmental Inspection Unit.

1.03 RELATED REQUIREMENTS

- A. Section 01 56 16 - Temporary Dust Barriers
- B. Section 02 41 19 - Selective Interior Demolition

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Provide all labor and materials necessary and required for removal and disposal of asbestos containing contaminated materials (ACM).
- B. Coordinate with the Environmental Inspection Unit Inspector all phases and hours for the work. Perform work only during regular working hours unless authorized otherwise.
- C. Perform work in a manner that will be least disruptive to the normal use of the non-work areas in the building.
- D. Contractor shall comply with all rules and regulations governing this Contract and with all governmental agencies with jurisdiction in this work; including but not limited to D.E.P. and O.S.H.A. All work shall be done in accordance with the applicable provision of DEP, N.Y.C.

Rules and Regulations, Title 15, Chapter 1, 5-31-99 and N.Y.S. Labor Law Article 30 (Part 56), the latest amendment to these laws and as modified herein by these specifications.

- E. Work of this Division shall be performed by persons knowledgeable, qualified, trained and certified in this work.
- F. Take all necessary precautions to protect the property of the Authority and its tenants during the work of this Contract. Damaged property shall be repaired and restored to its original condition or replaced at Contractor's expense if damaged beyond repair.
- G. Workmanship shall be of good quality and subject to the approval of the Authority.
- H. Do not transfer asbestos containing waste (ACW) from one vehicle to another, except at a transfer station certified by the N.Y. State D.E.C.
- I. Provide all equipment as required for proper lowering of all contaminated materials (asbestos waste) from the roofs to containers in accordance with all applicable laws and regulations.
- J. Contractor may have to install remote decontamination facilities. This added cost shall be included in the Contractor's bid. In addition, full body "TYVEK" disposable coveralls or approved equal, cotton gloves and towels shall be provided by the Contractor on as needed basis for the use of Authority personnel inspecting the work area. This added requirement shall be included and made part of the Contractor's bid.
- K. Work clothes shall consist of full body coveralls, disposable head covers, boots, and respiratory protection equipment as required by the O.S.H.A. regulations. Eye protection and hard hats should be available as appropriate. Respirators shall comply with D.E.P. regulations.
- L. If, at any time, the New York City Housing Authority representative decides that the work practices are violating regulations, or endangering workers, he/she shall immediately notify in writing the on-site Contractors representative that operations shall cease until corrective action is taken.
- M. The Contractor shall be required to keep a daily log to be inspected by the Authority.

1.05 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures - Submissions Sheet

PART 2 PRODUCTS

2.01 MATERIALS

- A. The material used to blanket or wet the asbestos contaminated materials shall be an acceptable foam or viscous liquid approved by DEP, EPA and:
 - 1. Shall not require special respiratory protection for handling.
 - 2. Shall coat, blanket and wet the contaminated materials and remain wet through the bagging process.
 - 3. Shall leave an identifiable colored residue when it dissipates.
 - 4. Shall not require special disposal.
 - 5. Acceptable products include the following:
 - a. **"SUPERFOAM II"**: Distributors: NYPCO Industries, Inc., Bldg. #3, Navy Yard, Brooklyn, NY 11205, (718) 596-3000, or equal.
 - b. **"IDC HYDROFOAM"**: Distributors: Insulation Distributors Corporation, 42 Mileed Way, Avenel, NJ 07001, (732) 388-9800, or equal.

2.02 WASTE HAULING/HAZARDOUS WASTE MANIFEST

- A. The Contractor shall utilize the licensed waste hauler and follow all provisions of the Environmental Conservation Law Title 3, Article 27. After all asbestos has been removed from a location, copies of the waste manifest showing the number of bags being removed and where it is being transported shall be given to the Development Superintendent and Contract Inspector. The Contractor shall comply with E.P.A. regulations (29 CFR 1910) for collecting, packing, transporting and disposing of asbestos.

- B. The contractor shall supply the Authority with a copy of the Waste Transport Manifest, with the printed names and legible signatures of the transporter/hauler and the Inspector at the dump site. It shall also be dates showing the quantity of asbestos dumped.
- C. The original manifest shall be delivered to Environmental Inspection Unit, 23-02 49th Avenue, Long Island City, New York, N.Y. Telephone No. (718) 707-5307.

2.03 FILING & CERTIFICATION

- A. The following procedures shall be followed:
 - 1. Notify D.E.P. seven (7) days and NYS Dept. of Labor ten (10) days prior to start of work, as well as the nearest E.P.A. office before removal work begins and obtain all necessary permits.
 - 2. Contractor is responsible for coordinating the filing of this job with D.E.P. The Housing Authority will sign the forms as the Owner, but actual filing shall be done by the Contractor. The Contractor shall file with D.E.P. and N.Y.S. Department of Labor.
 - 3. Contractor shall pay the filing fees for notification of asbestos work as required by the New York State Department of Labor, Division of Safety and Health. This cost shall be incorporated into the Contractor's bid.
 - 4. File any variance (ACP-9's) with NYC D.E.P., if required as part of this work. The owner's signature for any variance form may be obtained from the Environmental Inspection Unit, 23-02, 49th Avenue, 5th Floor, Long Island City, New York, N.Y. 11101.
 - 5. The owner's signature for the notification forms (ACP-7s) shall be obtained from the Environmental Inspection Unit., 23-02 49th Avenue, 5th Floor, Long Island City, New York, N.Y. 11101.
 - 6. The following documents must accompany the ACP-7 and ACP-9, if necessary, at the time of obtaining the owner's signature:
 - a. Contractor's Asbestos Handler license from NYS Department of Labor.
 - b. The Waste Transporter's permit form NYS Department of Environmental Conservation.
 - c. The Transporter's NYC Consumer Affairs permit for transportation of debris.
 - d. Notification to the NYS Department of Labor, Division of Safety and Health (if required), indicating the predesignated landfill.
 - e. Notification to E.P.A. (if requested), indicating the predesignated landfill.
 - f. Landfill permit from the State of the Designated Disposal site.
- B. These documents must be submitted and all information shall be verified by the Project Coordinator of the Environmental Inspection Unit.
 - 1. A site plan indicating where the decontamination enclosure system will be located.
 - 2. Provide procedures and equipment to be used to provide the proper full protection as required for the type of roof where work activities are to take place.
- C. Strict compliance to the regulations must be adhered to during asbestos removal operations. Any deviation (i.e., fully framed and plywood sheathed, protection of vent stacks) from the NYCDEP Regulations must be requested in the form of an ACP-9.
- D. Contractors (and sub-Contractors, if any) shall be certified by D.E.P. and the N.Y.S. Department of Labor.
- E. Contractor shall have in his/her possession at all times one copy of the following:
 - 1. OSHA regulation 1926.58 for Asbestos; E.P.A. 40 CFR Part 61, (sub-parts A and M): National Emission Standard for Asbestos, Asbestos Stripping Work Practices and Disposal of Asbestos Waste.
 - 2. NYC D.E.P. Title 15, Chapter 1 and NYS Industrial Code 56.
 - 3. Make another copy of the above regulations available on demand, at the job site, at any time during the work of this Contract.
 - 4. A copy of the approval, the corresponding notification and asbestos abatement procedure shall be posted conspicuously at the entrance to the work area.

- F. Any person handling asbestos shall be the holder of a current valid asbestos handling certificate issued by New York City Department of Environmental Protection and NYS DOL. Contractor shall furnish proof that employees have had instruction of the dangers of asbestos exposure, on respirator use, decontamination and OSHA regulations and comply with OSHA 29 CFR 1910.134, and DEP, NYC Rules and Regulations, Title 15, Chapter 1, 5-31-98 and NYS Industrial Code 56.
- G. Contractor shall file an asbestos removal plan with D.E.P. A copy shall be given to the Inspector.
- H. Contractor will be required to keep a daily log to be inspected by the Contract Inspector. The log shall comply with DEP, NYC Rules and Regulations, Title 15, Chapter 1, 5-31-98. Contractor shall sign the Contractor's Log Book in the Superintendent's Office daily immediately upon arrival at the work site.

2.04 WORK PROCEED ORDER AND COORDINATION

- A. The Administering Department shall issue a work proceed order, which include the name, address, telephone number, planned date of commencement and the location where work is to be done.
- B. Do not start any work until duly notified in writing by this Department.

2.05 APPLICABLE REGULATIONS, CODES AND STANDARDS

- A. All asbestos removal and disposal to be performed under this Contract shall be in accordance with all City, State and Federal regulations including but not limited to:
 1. DEP, NYC Rules and Regulations, Title 15, Chapter 1, 5-31-98, City of New York.
 2. Occupational Safety Health Administration (O.S.H.A.), U.S. Dept. of Labor - Asbestos Regulations.
 3. The U.S. Environmental Protection Agency. (E.P.A.)
 4. N.Y. State Labor Law - Article 30.
 5. N.Y. State Industrial Code - Rule 56.
 6. N.Y. State Environmental Conservation Law-Article 27, Title 3.

PART 3 EXECUTION

3.01 PERSONNEL PROTECTION

- A. Appropriate Personnel Protection Equipment (PPE) shall be worn.
- B. Provide well-tractioned and fitting rubber boots to persons entering the work area.
- C. Provide disposable coveralls ("tyvek" or approved equal), gloves and towels on an as needed basis for use by the Authority personnel inspecting the work.
- D. Provide proper fall protection required for the type of roof where work activities are to take place.

3.02 BACKGROUND CONDITIONS

- A. Conduct preliminary examination and take precautions to prevent damage to the interior of the building and to ensure no adverse effect on the structural stability of the roof due to the abatement activity.
- B. Do not carry out abatement during adverse weather conditions (e.g. precipitation, heavy winds; etc).
- C. Cordon off work areas to prevent access to unauthorized persons.

3.03 MINIMUM REMOVAL PROCEDURES

- A. Shutdown and isolate electric power in the designated work area.
- B. Remove movable objects from the work area or keep in place wrapped in 6-mil plastic sheeting. Cover fixed objects including perimeter walls, fence, railings, bulkheads, stacks, and other roof top appurtenances in plastic up to a height of ten (10) feet.

- C. The worker decontamination unit shall be constructed adjacent to the work area in accordance with DEP Title 15, Chapter 1, 5-31-98 of the Asbestos Regulations, with at least a shower room and a clean room. In addition to the shower head(s), the shower room shall be equipped with a flexible hose for waste decontamination. Remote decontamination facilities will be considered; however a variance must be requested from DEP Title 15, Chapter 1, 5-31-98. The remote holding area for the asbestos containing waste shall comply with all applicable NYC Department of Sanitation Regulations pursuant to DEP, Rules and Regulations, Title 15, Chapter 1, 5-31-98. In addition if the decontamination enclosure system is constructed outdoors, it must be sheathed with plywood unless a variance for relief from this requirement is approved.
- D. Provide safe and adequate air supply to the affected buildings. All vents, scuttle, air intakes, windows and doors, and other openings shall be sealed with 2 layers of 6-mil plastic or fitted with HEPA-filters where appropriate. Drains may be equipped with a particle filtering system (reference NYC DEP's Asbestos Control Regulations NYCDEP attachment FR.
- E. Prior to actual removal, blanket and wet the contaminated materials with a minimum 1"-3" coating of the acceptable foam or viscous liquid. Maintain for the duration of the removal until the material is bagged. Confine the foam or viscous liquid to the work area.
- F. Remove by using only hand tools. Do not use electrical saws or electrical power tools to cut asbestos containing materials which might cause emission of asbestos into the air.
- G. Remove in accordance with all City, State and Federal Regulations including but not limited to DEP, DOL, DEC, and EPA Regulations pertaining to non-friable asbestos containing material removal.
- H. Dispose all contaminated metal as ACM.
- I. Provide portable operational HEPA-vacuum machines during abatement.
- J. Remove all asbestos waste from the Development each day.
- K. No removal of asbestos materials by the use of foam shall be started or continued in air temperatures below 40 degrees.

3.04 REMOVAL OF ACM - GENERAL

- A. The asbestos abatement work shall be filed with the DEP.
 - 1. PREPARATION
 - a. The remote worker/waste decontamination enclosure system, constructed in accordance with Attachment D Title 15, Chapter 1 of RCNY, shall be erected at ground level. This unit shall be maintained in the work place for the duration of the abatement.
 - b. Protection below the work area is required with plastic sheeting.
 - c. Any scaffold erected shall be constructed, maintained, and operated in accordance with the applicable federal, state, and city rules and regulations.
 - d. The 4-sides of the scaffold must be covered with sheeting. A tarp must be hung beneath the scaffolding in order to catch any falling debris.
 - e. All openings on the level where the abatement is to take place, must be completely sealed with one layer of fire retardant 6-mil. Polyethylene sheeting.
 - f. During asbestos removal the asbestos handlers must wear applicable personal protective equipment and respiratory protection.
 - g. Personnel performing the work shall be NYS/NYC certified asbestos handlers. A NYS/NYC certified asbestos handler/supervisor shall be in the work place at all times. The asbestos handler/supervisor shall establish and maintain a log as that term is defined at 15 RCNY 1-02.
 - h. Each abatement team shall be equipped with appropriate tools, rags, a portable supply of amended water, and a HEPA vacuum. After the ACM is adequately wetted, it shall be stripped using hand tools, with the ACM being directly bagged or dropped into a flexible catch basin and promptly bagged. The stripped surface shall then be

HEPA vacuumed, and then wet-wiped to remove any loose debris still in place. All exposed joints shall be coated with a transparent encapsulate.

- i. Upon completion of the stripping at a location and before moving to the next, the surface of the immediate work area shall be rendered free of visible debris, next, the plastic covering of the platform shall be carefully cleaned and secured, at the next work area. New plastic sheeting shall be applied only as needed.

3.05 ASBESTOS REMOVAL

A. REMOVAL PROCESS

1. Removal of the asbestos-containing material shall be done in small sections with two person teams, or with the use of staging platforms, if needed.
2. Labels and all necessary signs shall be in accordance with EPA and OSHA standards.
3. When required, utilize negative pressure ventilation units during abatement activities. The minimum static negative air pressure shall be 0.02-inch water column.
4. Pipe Lagging- Movable glove bag procedures shall be done using commercially available glove bags of 10-mil polyethylene, appropriately sized for the project.
5. Stationary glove bag procedures shall be done using commercially available glove bags of a minimum of 6. mil. clear plastic, appropriately sized for the project. These glove bags shall not be shifted, moved, reinstalled or reused once used for Asbestos Containing Material (ACM) removal. The bag shall be detached by removing the tape or cutting the top with blunt scissors.
6. The bag shall be attached over duct tape that has been securely placed to form a smooth seal. A gasket material may be inserted between the tape and bag to facilitate bag movement. The bag shall be securely attached in a manner to prevent air transfer.
7. The integrity of the glove bag seal shall be smoke tested. In addition, the contents of the smoke tube shall also be smoke tested. The contents of the smoke tube shall be aspirated through the water port access sleeve of the bag. After twist sealing the access sleeve, the bag shall be squeezed gently to check for leakage points that are then taped airtight.
8. If the section adjacent to the section that will be worked on is damaged, the adjacent area shall be covered in 6. mil. polyethylene sheeting and sealed airtight with duct tape.
9. After the Asbestos Containing Material (ACM) has been removed, the area shall be sprayed with amended water and brush-scrubbed to remove all visible ACM. In addition, the interior of the bag and the tools shall also be sprayed with amended water. The enclosed volume shall be misted and time allowed for the mist to settle out before breaking the seal to shift or remove the glove bag.
10. After removing air in the bag with a HEPA vacuum, the movable glove bag shall be shifted in a manner to minimize air transfer from the bag and shall not be shifted more than 3 times per glove bag.
11. The tool pouch shall be separated from the bag prior to disposal by twisting it and the wall to which it is attached several times, and taping the twist to hold it in severed at the midpoint of the twist. Alternatively the tools can be pulled through with one or both glove inserts, thus turning the gloves inside out. The glove(s) is/are then twist sealed forming a new pouch, taped and severed mid-seal forming two separate bags.
12. A HEPA vacuum shall be used for evacuation of the glove bag in preparation for removal of the bag from the pipe, for clean-up in the event of a spill and for post-project clean-up.
13. With the glove bag collapsed and the ACM in the bottom of the bag, the bag shall be twisted several times and taped to seal that Section during bag removal.
14. Completely isolate and plasticize the existing room and carefully remove the contaminated material in complete accordance with agency regulations. No other work shall take place in any area undergoing abatement, unless allowed by Code and approved by the Authority.
15. Following removal, the entire area shall be wet cleaned. After a 12-hour period to allow for dust settling, the entire area shall be wet cleaned again. During this settling period no

entry activity or ventilation shall be allowed. Four (4) hours after the second cleaning, all surfaces in the entire work area shall be thoroughly vacuumed and wet mopped.

16. Remove asbestos contaminated mastic utilizing approved chemical removal solution for asbestos removal in accordance to manufacturer's directions. No sanding, stripping or caustic chemicals shall be permitted.
17. Wet down any asbestos dust that has escaped on the floor with an approved EPA wetting agent and coordinate with the work of other trades that affect or are affected by the work of this, or any other, Section.
18. All equipment shall be cleaned of asbestos material prior to leaving the work area.

3.06 CLEAN-UP

- A. Collect and dispose of any debris.
- B. Wet wipe the polyethylene sheeting. Remove the sheeting from the area and wet wipe and HEPA vacuum the area and its components.
- C. The Supervisor must conduct a thorough, visual inspection of the work area and areas adjacent to the work area. Any visible debris must be disposed of immediately. The visual inspection should focus on areas accessible to children.

3.07 CLEAN-UP PROCEDURES

- A. Clean-up procedures shall involve removal and bagging of:
 1. Visible accumulations of asbestos containing waste (ACW)
 2. All traces of foam or similar viscous liquid
 3. Excess liquid
 4. Debris
 5. Followed by a thorough wet cleaning.
- B. Double-bag with a gooseneck knot, all ACRM and ACW and dispose at a D.E.C. approved dumpsite.
- C. Wet clean and HEPA vacuum all tools and remove from the work area through the decontamination system.
- D. Allow area to dry completely before a visual inspection is conducted. The visual inspection shall confirm the absence of any traces in the work area of:
 1. ACM or ACW bags or debris and;
 2. Residue from the foam or viscous liquid.

NOTE: If the work area fails visual inspection the work area shall undergo another complete wet cleaning and/or HEPA vacuuming until it passes the visual inspection.

- E. After the work place has passed the visual inspection isolation barriers may be removed.

3.08 AIR-MONITORING

- A. Daily continuous air sampling in accordance with Section 1-41 through 1-45 of the NYC, DEP, Rules and Regulations, Title 15, Chapter 1, 5-31-98, will be conducted by an independent third party.
- B. If any air sample(s) within the work area exceed 0.01 f/cc or the background level, whichever is greater, then work shall not proceed on the following day until methods have been altered to reduce airborne fiber concentrations to the above limit. Work shall not resume until the NYCDEP has been notified
- C. Clearance air monitoring is not required.

3.09 DISPOSAL OF ASBESTOS MATERIAL AND RELATED DEBRIS

- A. The asbestos transporter shall be N.Y.S. D.E.C. approved. The transfer station, if any is utilized by the Asbestos Contractor, shall be D.E.C. approved.
- B. All asbestos waste and miscellaneous debris in double sealed bags shall be transported to the pre-designated disposal site in accordance with the guidelines of the U.S. Environmental Protection Agency. Only E.P.A. approved dump sites shall be used.

- C. Workers unloading the sealed bags and machinery operators shall wear respirators when handling materials at the disposal site.
- D. All bags shall be buried.
- E. The Contractor shall furnish copies of the asbestos waste manifest to the Contract Inspector.
- F. Bag counts for disposal of asbestos waste must be verified by the Authority Inspector for payment.

3.10 ASBESTOS REPORT

- A. APPENDIX A: Asbestos bulk sampling results.
- B. APPENDIX B: Asbestos bulk sampling results and DEP Asbestos Project Notification.

END OF SECTION