1. Asbestos abatement work is identified by the specifications for asbestos abatement, general asbestos abatement notes, key notes, and the asbestos abatement legend. The environmental contractor (EnvContractor) shall be a subcontractor to the General Contractor.

2. The building will remain operational during the asbestos project and accessible to the General Contractor. The EnvContractor shall insure the HVAC system is operational for the portion of the building that will stay operational during remediation.

3. The EnvContractor shall be responsible for erecting and maintaining hard barrier walkways through the building for access to areas that will stay operational during remediation.

4. The EnvContractor shall immediately clean up all trash and debris on a daily basis.

5. The EnvContractor shall coordinate access to the work area with the owner, consultants, and general contractor.

6. The EnvContractor shall field verify all quantities as dimensions are approximate. The EnvContractor is responsible for verification of quantities prior to bidding. The estimated quantities provided are assumed to be within +/- seven percent of the actual quantities.

7. All materials stored outside shall be secured with a temporary security fence or locked trailer. All materials are to be located in conformance with University of Colorado requirements and local fire codes to permit access to building.

8. The EnvContractor's site supervisor shall be immediately accessible by cell phone 24 hours per day during remediation.

9. All electrical, fire alarm, HVAC, and utility modifications shall be coordinated with owner. The Owner shall supply a water source for the project. The EnvContractor shall supply a water heater for the decontamination units.

10. The EnvContractor shall be responsible for providing all temporary lighting within each work zone, if needed.

11. The EnvContractor shall propose the locations of negative air machines, equipment, decontamination facilities, and bag-out locations. The Asbestos Project Manager and Industrial Hygienist shall review for approval. The EnvContractor shall prepare an asbestos design for each zone that complies with CDPHE Regulation 8 requirements. The EnvContractor shall apply for all necessary permitting pertaining to the project.

12. Exhaust ports shall consist of 1/2-inch plywood, 2 x 4 framing, and tamper proof hardware for security purposes for any level.

13. The EnvContractor shall use CDPHE trained personnel. Current certification documents shall be onsite at all times and readily accessible.

14. No smoking is allowed on property. No food is allowed inside the work zones.

15. The EnvContractor shall coordinate schedule with the Asbestos Project Manager, Industrial Hygienist, and General Contractor.

16. The Industrial Hygienist shall act as an independent air monitoring specialist to perform air clearance monitoring as required by CDPHE Regulation 8 and EPA.

17. After each work zone is completed and cleaned, the Owner and Industrial Hygienist shall perform a post-abatement walkthrough and develop a punch list prior to turning the work zone over to the General Contractor. All systems shall be tested and operational before occupancy.
LEGEND

- REMOVE ASBESTOS FLOOR TILE AND MASTIC
- REMOVE ASBESTOS FIBERGLASS JOINT COMPOUND

QUANTITIES

AWZ-0:
FLOOR TILE AND MASTIC
1,500 SQUARE FEET

FIBERGLASS INSULATION JOINT COMPOUND
10 EACH

BASEMENT ABATEMENT

1/16" = 1'-0"
LEGEND

- REMOVE FLOOR TILE AND MASTIC

QUANTITIES

AWZ-1:
FLOOR TILE AND MASTIC  3,250  SQUARE FEET

AWZ-2:
FLOOR TILE AND MASTIC  3,100  SQUARE FEET

AWZ-3:
FLOOR TILE AND MASTIC  2,800  SQUARE FEET

NOTE: FLOOR TILE/MASTIC UNDER CLOSET WALL
OF ROOM 170
Third Floor Abatement

Legend:
- Remove Floor Tile and Mastic

Quantities:
- AWZ-7: Floor Tile and Mastic 3,000 Square Feet
- AWZ-8: Floor Tile and Mastic 4,300 Square Feet
- AWZ-9: Floor Tile and Mastic 4,100 Square Feet

Client: University of Colorado
Project Location: Kittredge West Hall

Scale: 1/16" = 1'-0"
**LEGEND**

- REMOVE FLOOR TILE AND MASTIC
- REMOVE LEAD CONTAINING CERAMIC TILES

**QUANTITIES**

AWZ-10:
FLOOR TILE AND MASTIC  1,500 SQUARE FEET

AWZ-11:
FLOOR TILE AND MASTIC  3,500 SQUARE FEET
ASBESTOS ABATEMENT NOTES

A. ASBESTOS FIBERGLASS INSULATION JOINT COMPOUND

1. The EnvContractor is responsible for coordinating de-energizing and disconnecting of mechanical and electrical equipment that will be impacted during abatement project or part of the work area. The Owner will shut down and de-energize the systems prior to abatement starting.

2. Work involves the abatement of asbestos fiber glass joint compound. Fiberglass insulation shall be removed and recycled as non-hazardous waste. Asbestos fiber glass joint compound shall be made inaccessible to the containment zone or cover with poly to prevent it from entering the work area.

3. The EnvContractor shall establish a regulated area, control access, and isolate the work area. The containment shall have negative air pressure using vacuum equipment outfitted with HEPA filters and exhaust venting.

4. A drop cloth shall be installed under the work area. Asbestos fiber glass joint compound shall be removed in a non-hazardous manner. Asbestos fiber glass joint compound may be removed with a vacuum or by hand. All removed material shall be disposed of in a landfill facility that accepts non-hazardous asbestos materials.

5. All asbestos material shall be thoroughly wetted with water and remain wet until bagged and sealed. The EnvContractor shall continuously mist the work area with water to reduce dust and airborne fibers.

6. The EnvContractor shall double bag asbestos material in 5-mil polyethylene bags with the proper OSHA, EPA, and DOT labeling. Bagged asbestos shall be left closed, goose necked, and sealed. The EnvContractor shall include a generator label in each waste bag indicating the proper address of the waste generator and waste owner.

7. All asbestos waste shall be disposed of as non-hazardous material and shall be disposed of in a landfill facility that accepts non-hazardous asbestos materials.

8. The Industrial Hygienist shall be responsible for final visual inspections. Visual inspection shall be conducted by certified Air Monitoring Specialist (AMS) using aggressive clearance methods. Visual inspections shall be performed with only critical barriers in place. The EnvContractor may apply lockdown only after visual inspections have been completed and lockdown must be dry before final air clearance can begin. Final air clearance will be analyzed by PC0 methods.

9. If the EnvContractor uses mechanical scrubbers to remove the asbestos material, the procedure is considered ‘visibly’ removal and shall be performed inside a full containment enclosure.

B. ABATEMENT PERFORMED BY NON-MECHANICAL REMOVAL METHODS - FLOOR TILE AND MASTIC

1. Work involves the removal of asbestos floor tiles and mastic. Floor tiles and mastic may be under non-asbestos carpeting or other floor coverings. EnvContractor shall move miscellaneous materials outside the containment zone or cover with poly to access the asbestos materials. No storage is available outside the mechanical room.

2. The Contractor shall construct a secondary containment consisting of critical barriers and splash guards. Provide adequate negative air pressure within the containment using equipment outfitted with HEPA filters and exhaust venting through secured openings. Work zones shall be smoke tested to document negative air flow in all areas of the work zones.

3. Lay-in ceiling tiles may be used as an isolation barrier and should be coordinated with the abatement process. All ceiling openings such as light fixtures and HVAC vents shall be sealed with a critical barrier.

4. No mechanical means shall be used on asbestos materials for removal. Mechanical means included but not limited to power tools, chipper, beam blasters, mastic scrubbers, or other methods which will render asbestos materials friable.

LEAD CONTAINING MATERIALS

A. FACILITY COMPONENT REMOVAL METHODS - CERAMIC TILES

1. Work involves the removal of ceramic tiles that contain lead. The lead-containing ceramic tiles are located in all walls of the rooms on the 2nd and 4th floor. The ceramic tiles were analyzed and are classified as a hazardous waste as the TCLP analysis exceeds 5 ppm.

2. Workers shall be 40-hour HAZWOPER trained with current refresher training. Workers shall wear PPE including suits and respirators.

3. A critical barrier shall be placed over the entry to the work area. A decontamination unit shall be located outside each work area.

4. The specific ceramic tiles to be removed shall be identified by the General Contractor. A drop cloth shall be placed under the work area. The ceramic tiles shall be removed from the substrate with minimal breakage and removed by non-mechanical means.

5. The ceramic tiles shall be placed directly into approved hazardous waste containers. Containers shall be wet wiped or HEPA vacuumed prior to leaving the work area.

6. The work area shall be cleaned of all dust and debris using HEPA vacuums and wet sponges. The vacuum filters shall be disposed of as hazardous waste at the end of the project.

7. The EnvContractor shall be responsible for transportation and disposal of waste materials. The EnvContractor shall provide the proper OSHA, EPA, and DOT labeling. The Owner shall be identified as the generator and the Owner's EPA generator number shall be attached to all manifests. The Owner shall be responsible for transporting waste leaving the site.

8. The lead waste shall be disposed of as a hazardous waste (D008) and shall be disposed of in a landfill facility that accepts hazardous materials. The disposal site shall be approved by the Owner.

9. The Industrial Hygienist shall be responsible for final visual inspections and final clearance activities.

Quantities

<table>
<thead>
<tr>
<th>2nd Floor</th>
<th>12 restroom areas</th>
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</thead>
<tbody>
<tr>
<td>3rd Floor</td>
<td>6 restroom areas</td>
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</table>