

## Appendix K: Work Manager Quick Guide to Assessing Presence of Asbestos Materials

This quick guide was created to assist CMU work managers with assessing the presence of suspect asbestos materials (asbestos containing materials, presumed asbestos containing materials, and trace asbestos containing materials) prior to performing renovation, maintenance, or other work that will physically impact building materials, to help managing asbestos-related work, and to supplement information found in the EHS Asbestos Management Program (AMP).

Due to variability between work activities, all information needed for an individual project may not be included in this document to ensure succinctness. Certain exceptions to the outlined process will apply for emergencies—contact EHS for additional guidance.

Please reference the [Asbestos Management Program](#) for full details and contact EHS at [safety@andrew.cmu.edu](mailto:safety@andrew.cmu.edu) or 412-268-8182 for additional guidance.

1. Receive request for work.
2. Use "[Red, yellow, green building list](#)" to determine if work will require an asbestos assessment.
  - If building is listed as green, no asbestos assessment is necessary. Work may proceed.
  - If building is listed as red or yellow:  
Contact EHS using the [webform](#). You may also submit a request to [safety@andrew.cmu.edu](mailto:safety@andrew.cmu.edu) including the below-listed information; however, using the webform is preferred. EHS will perform a records review and advise of asbestos assessment needs.
    1. Name and contact information for CMU work manager
    2. Work location—this should include building name, room number, and any other relevant locational identifiers
    3. Work order number or other project number (if applicable)
    4. Summary of scope of work/project specifications—this may include a listing of building materials that will be impacted by the work (e.g. drywall, plaster, pipe insulation, etc.), a description of the work to occur (flooring replacement, window replacement, wall demo, repair to water-damaged ceiling, etc.) and project drawings or marked-up floorplans
    5. Anticipated start and end dates of work
    6. Contact information for space occupant, if applicable
    7. *Requested* date for receipt of assessment summary
    8. FMCS only—identify if work is emergency/urgent priority, daily service, or project/preventive maintenance/corrective maintenance
    9. FMCS only—name of FMCS building inspector performing assessment, if applicable
    10. Attach any additional photos, project drawings, etc.

In order to prevent delays to schedules, work notification must be submitted to EHS as soon as possible in advance of work initiation or at the beginning of work planning, whichever is sooner. It is highly suggested to send notification as early as possible to allow ample time for scheduling subsequent bulk sampling by EHS, FMCS or an approved third-party contractor.

EHS will provide the work manager with any relevant historical records and identify what entity should perform the asbestos assessment. EHS will perform asbestos assessments for small and some mid-sized work activities based on availability in addition to scope and complexity of the work. Work that is complex or large in scope will most often need assessed by an approved third party. FMCS only—FMCS personnel who are licensed asbestos building inspectors may perform asbestos assessments for work that is categorized as emergency/urgent priority or daily service.

### 3. Oversee asbestos assessment activities.

The work manager is responsible for coordinating and managing asbestos assessment activities. All materials that will be impacted within the scope of work must be included in the assessment.

Please also consider the following:

- **It is not the responsibility of the work manager to identify suspect asbestos materials that require sampling within a work area.** The work manager must provide the asbestos building inspector, whether in-house or third-party, with the entire scope of work and project specifications so that they can make the determination of what materials require sampling. This will ensure lesser-known suspect materials, such as caulking, joint compound, roofing materials, etc., are not overlooked. Historical records provided by EHS should also be provided to the building inspector to aid in their inspection.
- Even though certain areas may have previously undergone renovation and abatement, e.g. flooring replacement that required asbestos abatement, please consider the possibility that additional asbestos materials may be located behind walls, above ceilings, etc. if the previous scope of work did not include this kind of activity. Additionally, in areas where TACM plaster is present, it is likely that all of the TACM plaster was not completely removed.
- Asbestos bulk sampling does not always include sampling of materials located behind immovable structures, such as walls. Consideration should be made for the benefits of such sampling to the proposed work. Access to certain materials may require surface repairing after the inspection is completed based on space occupancy, work start date, etc. Any such work should be coordinated by the work manager with the asbestos building inspector for sampling and general contractor for access and repairs.
- Some sampling activities, such as the collection of bulk samples of roofing materials or high-temperature pipes, may require assistance by a trade-specific contractor to prevent negative impact to a building or its occupants, maintain item's warranty, etc. The trade-specific contractor must be contracted and coordinated by the work manager to complete bulk sampling under the oversight of the asbestos building inspector and/or make repairs to the sampled material(s).
- All plaster samples collected at the university should be point counted when there is a positive result from the PLM bulk analysis. Positive plaster samples are most likely to be found in the following buildings: Baker and Porter Halls, Doherty Hall, College of Fine Arts building, Hamerschlag Hall and Margaret Morrison and Carnegie Hall.

#### 4. Review results and recommendations of asbestos assessment.

When EHS performs the asbestos assessment, EHS will send a summary to the work manager with an interpretation of the results and recommended response actions. When assessments are conducted by third parties, their summary report must be forwarded to EHS for review—see below for report requirements based on size/scope of work activities.

For all assessments (see exception below for small assessments), the following information, where applicable, should be provided to EHS:

- Summary of the assessment, e.g. scope of assessment work, building information, and inspection and sampling methodology
- Photographs of any uncommon materials—all photos should be labeled with a description
- Summary of samples and associated laboratory results. Summary must include, at a minimum, a description of each homogeneous area (estimated quantity and material description), sample IDs associated with each homogeneous area, sample results, a listing of any materials assumed to be asbestos containing, listing of locations that were inaccessible or not able to be sampled and maps of sampling locations.
- Copies of lab reports, chains of custody and sample log forms/onsite notes.
- Recommendations based on results.

Exception to the above reporting requirements may be made for certain small work activities where only 2-3 homogeneous areas of materials are assessed—e.g. one section of pipe insulation that needs sampled for pipe repair, floor tiling and mastic that needs sampled in a small closet, or one plaster wall that needs sampled due to water damage. For such assessment work, the third party<sup>1</sup> must supply the following to EHS:

- Copies of lab reports, chains of custody and any sample log forms/onsite notes
- Summary of samples and associated laboratory results. Summary must minimally include:
  - a description of each homogeneous area (estimated quantity and material description) and sample IDs associated with each homogeneous area
  - Map of sampling locations

#### 5. Response actions based on assessment results and recommendations

- All sample results identify no ACM and/ or TACM
  - Renovation, maintenance, or other work may proceed.
    - Contractors should be aware of the potential for new, suspect materials to be uncovered during work. See step 14 for procedures for handling newly found materials.
- Sample results identify ACM and/or TACM.
  - Prior to commencing work that will impact ACM and/or TACM, appropriate abatement activities must commence. Proceed to step 6.

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<sup>1</sup> The work manager may assist with supplying the last two bullet-point items, but must be present during assessment to ensure accuracy.

## 6. Select approved contractor for abatement.

The work manager is responsible for selecting an abatement contractor to perform asbestos abatement activities. A contractor with appropriate-level training/certifications/licensing and approval by EHS must be selected to perform any type of asbestos abatement work, including cleanup of asbestos debris. Contact EHS for a listing of approved contractors.

Please note that contractors selected to perform TACM work must have an EHS-approved TACM program and must additionally submit a site-specific plan at least 48 hours prior to commencing TACM work. See [Contractor TACM Quick Guide](#) of the AMP for additional details.

**Table 1** below summarizes entities able to perform work on asbestos materials.

<b>Table 1. Entities Permitted<sup>2</sup> to Perform Asbestos Work</b>	
<b>Type of Asbestos Material Impacted</b>	<b>Entities</b>
ACM (i.e. materials containing >1% asbestos), including PACM and other assumed asbestos materials	<ul style="list-style-type: none"><li>• Licensed asbestos abatement contractors</li></ul>
TACM (i.e. materials containing >0% and ≤1% asbestos)	<ul style="list-style-type: none"><li>• Contractors with TACM program</li><li>• Licensed asbestos abatement contractors</li><li>• Trained FMCS personnel (&lt;160sf of material only)<sup>3</sup></li></ul>

## 7. Determine need for project monitoring.

Project monitoring oversight may include: abatement planning and specification, visual inspections of abatement containment and abatement work, project specification monitoring, regulatory coordination, air sampling outside of the abatement containment collected throughout the project's duration and clearance air sampling. Based on the scope and complexity of an abatement project, in addition to the type of asbestos material being abated, more or less involvement by the project monitor will be required as determined by EHS.

See **Table 2** below for abatement work that requires project monitoring air samples. The project monitoring contractor must be independent of the abatement contractor and hired by the CMU work manager. Typically, the contractor performing clearance air sampling can also fulfill project monitoring needs.

Project monitoring air samples must be collected 10 feet away from the containment area or abatement work. At least one of the required air samples must be collected during clearance air sampling and the remainder collected while abatement activities are occurring. Air sampling must be performed in accordance with NIOSH Method 7400.

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<sup>2</sup> Before performing work on campus for the first time, all contractors performing asbestos work must be approved by EHS and will be required to submit documentation related to licensing, training, and overall competency to perform asbestos work. Any such contractors should contact EHS via [safety@andrew.cmu.edu](mailto:safety@andrew.cmu.edu) for approval.

<sup>3</sup> FMCS personnel only perform TACM work for FMCS-related work activities

Abatement work that is emergency in nature and that must be completed within 24 hours may be exempted from third-party project monitoring to ensure quick abatement action to protect employee and occupant health, building integrity, assets, etc. Notification should be made as soon as possible to EHS at the **EHS Emergency Hotline 412-268-8182** for guidance.

<b>Table 2. Abatement Work that Requires Third-Party Project Monitoring</b>		
<b>Amount of Material Impacted</b>	<b>Materials are Friable<sup>4</sup></b>	<b>Materials are Non-friable</b>
<160sf or <260 linear feet of ACM and/or PACM	Project monitoring may be required if the work is in an occupied or otherwise sensitive area, as determined by EHS.	None typically required, but may be otherwise determined by EHS.
≥160sf or ≥260 linear feet of ACM and/or PACM	Project monitoring is required. Number of air samples will be based on size, scope, and duration of the work.	Project monitoring if sensitive area, as determined by EHS or if abatement quantity is more than 500sf.
Any amount of TACM	Project monitoring required if sensitive area, as determined by EHS, or if abatement quantity is more than 500sf.	Not required.

### 8. Determine needs for permitting.

**Table 3** below identifies asbestos work that requires a permit and/or notification to the Allegheny County Health Department (ACHD). The work manager should coordinate with their selected contractor to complete permits and notifications as required. All permit applications must be sent to EHS for signature.

<b>Table 3. Permitting Requirements</b>	
<b>Amount of Material Impacted</b>	<b>Notification and Permitting Requirements</b>
<160sf or <260 linear feet of ACM and/or PACM	If the selected abatement contractor does NOT hold an O&M permit for the university, a notification must be sent to ACHD and there will be a 10-working-day waiting period before abatement work may commence.  By utilizing an asbestos abatement contractor that holds an ACHD operations and maintenance (O&M) permit for

<sup>4</sup> This includes materials that will become friable upon abatement.

	the university, the notification and 10-working-day waiting period is waived. Abatement work may commence as soon as needed.
≥160sf or ≥260 linear feet of ACM and/or PACM	ACHD permit fee and notification required. 10-working-day wait period applies before abatement may begin.
Any amount of TACM	EHS permit/approval required. At least 48 hours prior to commencing work, contractor must submit site-specific work plans. See <a href="#">Contractor TACM Quick Guide</a> for site-specific work plan requirements.

## 9. Determine clearance air sampling needs.

Many asbestos abatement projects will require clearance air sampling to determine that safe airborne asbestos concentrations are present within the abatement area prior to re-occupancy.

**Table 4** below outlines clearance air sampling requirements.

Clearance air samples must always be conducted by a contractor independent of the asbestos abatement contractor and hired by the work manager. It is the responsibility of the work manager to contract with an approved, contractor to perform this air sampling.

Typically, the contractor performing project monitoring air sampling (if required for your project) can also fulfill project monitoring needs.

<b>Table 4. Clearance Air Sampling Requirements for Asbestos Materials</b>		
<b>Amount of Material Impacted</b>	<b>Friable<sup>5</sup> Material Abatement</b>	<b>Non-friable Material Abatement</b>
<160sf or <260 linear feet ACM and/or PACM	At least three clearance samples if area is more than 20 linear feet or 20sf; otherwise, use contractor's personals as clearance.	Use contractor's personal air samples as clearance test.
≥160sf or ≥260 linear feet ACM and/or PACM	Five clearance samples per the first 5,000sf plus one sample per each additional 5,000 sf OR one sample of air per room required by ACHD.	Five clearance samples per the first 5,000sf plus one sample per each additional 5,000sf OR one sample of air per room required by ACHD.
>100sf or >100 linear feet TACM	At least three clearance air samples. More air samples may be required as determined by EHS based on	None typically required.

<sup>5</sup> This includes materials that will become friable during abatement.

	size, scope, and complexity of work.	
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**10. Proceed with asbestos abatement activities.**

All asbestos abatement activity will be coordinated by the work manager. It is their responsibility to develop the scope of work, facilitate its proper completion and to ensure compliance with regulatory and EHS requirements—EHS will provide guidance as needed. EHS must be updated as the work progresses, including when it is completed.

All asbestos abatement activities must occur prior to any renovation, maintenance, or demolition work that will disturb the asbestos materials, including if there is a reasonable potential for the material to be disturbed.

Please note that it is prohibited to cover asbestos materials that are within the scope of work—e.g. asbestos-containing floor tiling may not be covered with carpeting and asbestos-containing pipe insulation may not be sealed behind walls—they must first be appropriately abated.

**11. ACHD-permitted work only—ACHD inspection of abatement worksite.**

All ACHD-permitted projects (i.e. work that impacts  $\geq 160$ sf or  $\geq 260$  linear feet of ACM and/or PACM) must be inspected by ACHD prior to removing containment associated with the abatement in addition to re-occupancy of the space. The abatement contractor must schedule the inspection AFTER clearance air sampling has been successfully completed and the worksite has been cleared of all asbestos-containing waste and visible residue within the work area.

Once the inspection has been completed, the ACHD inspector will provide a “Final Clearance Inspection” form granting or denying final clearance. If denied, the inspector will cite deficiencies that need corrected before a follow-up inspection is scheduled.

**12. Supply EHS with asbestos abatement documentation.**

It is the responsibility of the work manager to ensure the documentation outlined below is supplied to EHS by the contractor at the completion of abatement activities. Checklists are provided at the end of this quick guide that should be supplied to the abatement contractor. The abatement contractor should complete and submit the checklist and submit it along with the listed documentation.

**Abatement Contractor’s Report for ACHD-Permitted Work ( $\geq 160$ sf or 260 linear feet of ACM)**

- A copy of the ACHD clearance inspection form.
- A copy of the signed, landfill waste-manifest for all waste generated from the project.
- A copy of the ACHD permit under which the work occurred, including any amendments made to the original permit.
- A copy of all personal air monitoring results, log-in sheets and work-progress forms used

during the project.

- Locations and quantities of any known, remaining asbestos materials within the project's scope of work.
- A written description of any unusual issues or problems related to the project, if applicable.
- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc. (optional)

#### Abatement Contractor's Report for O&M Work and Work Involving <160sf or 260 linear feet of ACM

- A copy of the signed, landfill waste-manifest for all waste generated from the project.
- A copy of all personal air monitoring results, containment log-in sheets, and work-progress forms used during the project.
- Locations and quantities of any known, remaining asbestos materials within the project's scope of work.
- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc.
- A written description of any unusual issues or problems related to the project.
- For work not performed under an O&M permit, a copy of signed ACHD notification
- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc. (optional)

#### Contractor's Report for TACM Work

The following documentation is required for work disturbing >100sf or 100 linear feet of TACM.

- A written description of the work performed (i.e. exact description of where wall penetrations were made, what walls were removed, etc.). Drawings/sketches may be utilized for additional illustration.
- Identification of any unusual issues or problems related to the project.
- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc. (optional).

The following documentation is required for work disturbing  $\leq$ 100sf or 100 linear feet of TACM (this information may be generated by the work manager in lieu of the contractor).

- A written description of the work performed—i.e. exact description of where wall penetrations were made. Drawings/sketches may be utilized for additional illustration.
- Identification of any unusual issues or problems related to the work.
- Any other documents or materials produced by the contractor or work manager, such as on-site photographs, project drawings, notes, etc. (optional).

#### Air-Sampling Contractor's/Project Monitor's Report

- All air monitoring results from area/project monitoring and final clearance samples.
- Maps of air sampling locations.
- Copies of any log forms, checklists and work-progress forms completed by the consultant during the project.
- A written description of any unusual issues or problems related to the project.

### 13. Proceed with renovation, maintenance, or other work activities.

Once all asbestos materials that will be impacted by a project have been abated and all applicable clearance air sampling and ACHD inspections have been completed, the renovation, maintenance



or other work may proceed. If the scope of work changes, EHS should be contacted as soon as possible to determine if additional asbestos assessment is necessary.

If new materials are discovered that weren't included in the initial assessment (e.g. pipe insulation behind walls), see step 14.

#### 14. Reporting and handling of newly identified suspect asbestos material after work initiation.

Although thorough asbestos assessments are conducted prior to renovation, maintenance, and other work, some materials are not always identified due to their inaccessibility at the time of assessment. This will predominately include materials located behind walls or other immovable structures. Additionally, new materials may be encountered if the scope of work changes. When such new materials are identified, it is important that information be reported to the appropriate parties within a timely manner to ensure both awareness and unintended disturbance.

- Personnel who find new, suspect asbestos materials must notify their supervisor and the CMU work manager within two hours of the discovery, reporting the material identified, its location and estimated quantity.
- CMU work managers must communicate all information provided from reports of newly found asbestos materials to the rest of the contractors or employees working at the site (this may be achieved by notifying the prime contractor who can, in turn, notify their sub-contractors) and EHS within 24 hours of the discovery. As needed, EHS or a third party should collect samples of the material to determine asbestos content; otherwise, the material must be assumed to be ACM.

If newly found materials were damaged during discovery, the [Accidental Fiber Release Procedure](#) found in Appendix G of the Asbestos Management Program should be followed.

## **Checklist #1: Abatement Contractor's Report for ACHD-Permitted Work (≥160sf or 260 linear feet of ACM)**

This checklist should be completed and submitted by the contractor along with the documentation listed below.

### **Required documentation:**

- A copy of the ACHD clearance inspection form(s).
- A copy of the signed, landfill waste-manifest for all waste generated from the project.
- A copy of the ACHD permit under which the work occurred, including any amendments made to the original permit.
- A copy of all personal air monitoring results, containment log-in sheets, and work-progress forms used during the project.
- Locations and quantities of any known, remaining asbestos materials within the project's scope of work.
- A written description of any unusual issues or problems related to the project, if applicable.

### **Additional documentation (optional):**

- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc.

## Checklist #2: Abatement Contractor's Report for O&M Work and Work Involving <160 sf or 260 linear feet of ACM

This checklist should be completed and submitted by the contractor along with the documentation listed below.

### Required documentation:

- A copy of the signed, landfill waste-manifest for all waste generated from the project.
- A copy of all personal air monitoring results, containment log-in sheets, and work-progress forms used during the project.
- Locations and estimated quantities of any known remaining asbestos materials within the project's scope of work.
- For work not performed under an O&M permit, a copy of signed ACHD Asbestos Abatement and Demolition/Renovation Notification Form.
- A written description of any unusual issues or problems related to the project, if applicable.

### Additional documentation (optional):

- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc.

### Checklist #3: Contractor's Report for TACM Work

This checklist should be completed and submitted by the contractor or work manager, where noted, along with the documentation listed below based on size of TACM disturbance.

#### Required documentation for work disturbing >100 sf or 100 linear feet of TACM:

- If different from the information from the information supplied in the permit: a written description of the work performed (i.e. exact description of where wall penetrations were made, what walls were removed, etc.). Drawings/sketches may be utilized for additional illustration.
- Identification of any unusual issues or problems related to the project.
- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc. (optional).

#### Required documentation for work disturbing $\leq$ 100 sf or 100 linear feet of TACM (this information may be generated by the work manager in lieu of the contractor):

- If different from the information from the information supplied in the permit: a written description of the work performed—i.e. exact description of where wall penetrations were made. Drawings/sketches may be utilized for additional illustration.
- Identification of any unusual issues or problems related to the work.
- Any other documents or materials produced by the contractor or work manager, such as on-site photographs, project drawings, notes, etc. (optional).

## Checklist #4: Air Sampling Contractor's/Project Monitor's Report

This checklist should be completed and submitted by the contractor along with the documentation listed below.

### Required documentation:

- All air monitoring results from area/project monitoring and final clearance samples.
- Maps of air sampling locations.
- Copies of any log forms, checklists, and work-progress forms completed by the consultant during the project.
- A written description of any unusual issues or problems related to the project.

### Additional documentation (optional):

- Any other documents or materials produced by the contractor, such as on-site photographs, project drawings, notes, etc.