OHIO DEPARTMENT OF TRANSPORTATION

ASBESTOS GUIDANCE DOCUMENT

Prepared by:

ODOT Office of Environmental Services

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1.0 Introduction

This document provides guidance to Ohio Department of Transportation (ODOT) employees, consultants, and contractors working on ODOT projects for:

1) Determining which ODOT actions are regulated by the United States Environmental Protection Agency (USEPA) Asbestos National Emissions Standards for Hazardous Air Pollutants (Asbestos NESHAP) regulations and the Ohio Environmental Protection Agency (OEPA) asbestos regulations.

2) Detailing the procedures that are required to be implemented on regulated projects in order to ensure compliance with the Asbestos NESHAP regulation and the OEPA asbestos regulations.

2.0 Federal and State Regulations

2.1 Federal Regulations

2.1.1 U.S. Environmental Protection Agency - Clean Air Act (42 U.S.C. §7401 et seq.)

The Clean Air Act (CAA) is a United States federal law designed to control air pollution. It is one of the United States’ first and most influential modern environmental laws, and one of the most comprehensive air quality laws in the world. It is administered by the U.S. Environmental Protection Agency (USEPA) in coordination with state, local, and tribal governments. The implementing regulations are codified at 40 C.F.R. Subchapter C, Parts 50-97.

Congress, through the CAA, authorized the development of comprehensive federal and state regulations to limit emissions of hazardous air pollutants (HAPs). The CAA required the USEPA to identify HAPs and promulgate standards for each HAP. The USEPA published emissions standards for each identified HAP in 40 CFR Part 61 entitled National Emission Standards for Hazardous Air Pollutants (NESHAP) and 40 CFR Part 63 entitled National Emission Standards for Hazardous Air Pollutants for Source Categories. Standards in Part 61 apply based on the activity that is being performed and what hazardous air pollutants may be emitted. The more than 100 standards in Part 63 apply based on the industrial classification of a facility, not to specified activities.
The Asbestos NESHAP (40 CFR Part 61, Subpart M, Section 61.145 Standard for Demolition and Renovation) sets forth procedures to be followed when a “facility” is demolished or renovated to minimize the release of asbestos fibers during these activities. Section 61.145 defines a “facility” as:

“Any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function”.

The Asbestos NESHAP regulates facility renovation and demolition activities involving building materials that contain greater than one (1) percent asbestos.

Example
An ODOT bridge that is scheduled to be demolished but was identified as having 300 linear feet of asbestos-containing (greater than 1 percent asbestos) pipe insulation located on the underside of the bridge decking, would be regulated by the Asbestos NESHAP. The Asbestos NESHAP requires that the 300 linear feet of asbestos-containing pipe insulation be abated prior to the bridge being demolished.

2.1.1.1 National Emission Standards for Asbestos - Background Information for Promulgated Asbestos, NESHAP Revisions

The term structure, as used in the Asbestos NESHAP regulation, was further defined in the document entitled “National Emission Standards for Asbestos - Background Information for Promulgated Asbestos, NESHAP Revisions” dated October 1990 (EPA 450/3-90-017). In this document, a structure is stated as including dams, bridges, foundations and motors. Based on this clarification, bridges are regulated under the Asbestos NESHAP regulation and hence, must be inspected for asbestos prior to renovation and/or demolition activities.
2.1.1.2 Building Materials

The Asbestos NESHAP regulates facility or structure renovation and demolition activities involving building materials that contain greater than one (1) percent asbestos. Building materials are any material used for construction purposes. Many of these products are naturally occurring substances, such as clay, rocks, sand, and wood while other materials are manmade or synthetic. Manmade or synthetic building products may include, but not limited to, glass, drywall, asphaltic substances, thermal insulation, wiring, and carpet.

2.1.2 Occupational Safety and Health Administration (OSHA) - Asbestos Standard for the Construction Industry (29 CFR 1926.1101)

OSHA’s Asbestos Standard for the Construction Industry regulates asbestos exposure during the following activities:

- Demolition or salvage of structures where asbestos is present;
- Removal or encapsulation of materials containing asbestos;
- Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain asbestos;
- Installation of products containing asbestos;
- Asbestos spill/emergency cleanup; and
- Transportation, disposal, storage, containment of and housekeeping activities involving asbestos or products containing asbestos, on the site or location at which construction activities are performed.

OSHA regulates renovation and demolition activities involving building materials which contain any amount of asbestos.

**Example**

Asbestos-containing materials that are to be abated from an ODOT bridge are required to be handled in accordance with the material-specific work practices outlined in OSHA’s Asbestos Standard for the Construction Industry.

2.1.3 Highway Regulations - Bridges, Structures, and Hydraulics (23 CFR Part 650)

23 CFR Section 650.305 establishes proper safety inspections and evaluations to be performed on highway bridges. This Section defines a “bridge” as:

“A structure including supports erected over a depression or an obstruction such as water, highway or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between under-copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it
may also include multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening.”

2.2  **State of Ohio Regulations**

2.2.1  **Ohio Administrative Code (Chapters 3745-20 and 3745-22)**

The OEPA asbestos regulations established under the Ohio Administrative Code (OAC) *Chapter 3745-20 Asbestos Emission Control* are consistent with federal Asbestos NESHAP regulation referenced in 2.1.1, above. These regulations were established by the OEPA for controlling asbestos emissions during demolition and renovation projects.

The OEPA asbestos regulations established under OAC *Chapter 3745-22 Asbestos Licensing and Certification* are the former Ohio Department of Health asbestos regulations, which were adopted by the OEPA on January 1, 2018. Chapter 3745-22 encompasses the rules governing asbestos hazard abatement contractors, specialists, project designers, workers, and asbestos training courses.

Under the OEPA asbestos regulations, the “Notification of Demolition and Renovation” form (ONDRF) is required to be submitted ten (10) days prior to any of the following activities being performed:

- Demolition of a facility, regardless of whether asbestos is involved. This includes all structures that will be intentionally burned for fire training purposes.
- Renovation of a facility when the amount of regulated asbestos-containing material (RACM) stripped, removed, dislodged, cut, drilled, or similarly disturbed exceeds 260 linear feet on pipes or 160 square feet on other facility components or 35 cubic feet off facility components.
- Abatement at a facility when the activity involves the removal, renovation, enclosure, repair or encapsulation of friable asbestos-containing materials (ACMs) in an amount greater than 50 linear feet on pipes or 50 square feet on other facility components.

In addition, under the OAC 3745, OEPA grants local air pollution agencies authority to regulate discharges of pollutants within their designated jurisdictions.

**Example**

Demolition of an ODOT bridge would require submittal of the ONDRF, regardless if asbestos-containing materials were identified on the bridge or not per OAC 3745-20-B(2).
2.2.2 Ohio Department of Transportation - Bridge Inspections (ORC 5501.47)

ORC 5501.47 defines a bridge as “a structure of ten (10) feet or more, clear span or ten feet or more in diameter on, above, or below a highway, including structures upon which railroad locomotives or cars may travel.”

3.0 Asbestos

3.1 What is Asbestos?

Asbestos refers to six (6) unique substances that belong to the serpentine and amphibole mineral families: chrysotile, amosite, crocidolite, tremolite, anthophylite, and actinolite. These are all naturally occurring mineral fibers and were once widely used in building materials and products for their thermal insulating properties and fire resistance.

3.2 When is Asbestos Hazardous?

Breathing in asbestos fibers can cause serious health problems. If asbestos fibers are inhaled, these tiny microscopic fibers can cause the normal functions of lungs to be disturbed. Exposure to asbestos fibers increases an individual’s risk of developing lung cancer, mesothelioma, or asbestosis. Mesothelioma is a cancer of the lining of the chest cavity (mesothelium) or the abdominal cavity (peritoneal) and is typically always fatal. Asbestosis is a fibrotic scarring of the lung tissue and can be fatal.

Intact, undisturbed building materials identified as containing asbestos generally do not pose a health risk. These materials may become hazardous (asbestos fibers are released into the air) and pose an increased risk if they are in a damaged condition, disturbed in some manner, or have deteriorated over time.

3.3 The Banning of Asbestos

The first bans on asbestos products were implemented under Asbestos NESHAP in the 1970s. On July 12, 1989, USEPA issued a final rule banning most asbestos-containing products; however, the rule was overturned, allowing the banning of only a few products. In addition, the rule continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as "new uses" of asbestos. Table 1 below provides a listing of asbestos-containing products that have been banned in the United States.
Table 1. Asbestos containing products (Building Materials) that have been banned in the United States.

<table>
<thead>
<tr>
<th>NESHAP Bans</th>
<th>EPA Ban and Phase Out Rule of 1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spray-applied fireproofing in 1973</td>
<td>• Spray-applied decorative uses in 1978</td>
</tr>
<tr>
<td>• Preformed block pipe, boiler, tank, duct insulation in 1995</td>
<td>• Other decorative uses in 1990</td>
</tr>
</tbody>
</table>

A number of products that are not banned today are listed in Table 2 below. It should be noted that USEPA does not track the manufacture, processing or distribution of asbestos-containing materials.

Table 2. Asbestos containing products (Building Materials) not banned and currently produced.

| • Asbestos Cement (transite)                  | • Wallboard & Joint Compound                                           |
| • Asphalt Roofing Products                   | • Clothing & Cloth Products                                            |
| • Ceiling Tile                                | • Caulking & Glazing                                                   |
| • Resilient Flooring (tile & sheeting)       | • Light Concrete                                                      |
| • Mastics                                    | • All other uses not mentioned in bans                                 |
| • Gaskets                                    | • Friction Products (brake pads, etc.)                                 |

3.4 Asbestos-Containing Material and Regulated Asbestos-Containing Material Defined

3.4.1 Asbestos-Containing Material (ACM)

The Asbestos NESHAP, OEPA and OSHA asbestos regulations define ACM as any material containing greater than one (1) percent asbestos as determined by polarized light microscopy. The Asbestos NESHAP and OEPA asbestos regulations further segregate ACMs into three (3) classifications:

1) **Friable ACM**: ACM that when dry, **can** be crumbled, pulverized, or reduced to powder by hand pressure.

2) **Category I Non-friable ACM**: ACM that when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure such as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products.

3) **Category II Non-friable ACM**: ACM that when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure, and is any ACM, excluding Category I Non-friable ACMs.
3.4.2 Regulated Asbestos-Containing Material (RACM)

The Asbestos NESHAP and OEPA asbestos regulations specify which ACMs must be abated prior to the renovation and/or demolition of a facility. ACMs that are regulated during demolition and renovation projects are classified as RACMs. RACMs are defined as:

1) A friable ACM,
2) A Category I Non-friable ACM that has become friable,
3) A Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or
4) A Category II Non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities.

OAC Chapter 3745-20 regulations RACMs when the quantity to be disturbed by a renovation or demolition activity meets or exceeds 160 square feet, 260 linear feet, or 35 cubic feet. All regulated projects require notification to the state.

OAC Chapter 3745-22 regulates friable ACMs (otherwise known as RACM) when the quantity to be removed, renovated, enclosed, repaired or encapsulated during a renovation or demolition activity exceeds 50 square feet or 50 linear feet. All regulated projects require notification to the state.

Again, it should be noted that building materials identified as containing less than one (1) percent asbestos are not regulated under Asbestos NESHAP and OEPA asbestos regulations.

4.0 ACMs in Quantities Less than 260 Linear, 160 Square, or 35 Cubic Feet

4.1 Quantities Greater than 50 Linear or 50 Square Feet but Less than 260 Linear or 160 Square Feet

During a renovation project where friable ACMs, in quantities greater than 50 linear feet or 50 square feet but less than 260 linear feet, 160 square feet or 35 cubic feet, are to be disturbed, OEPA requires friable ACMs be abated (per OAC 3745-22) by a State of Ohio licensed Asbestos Hazard Abatement Contractor (AHAC) prior to commencement of renovation activities being performed.

4.2 Quantities Less than 50 Linear or 50 Square Feet

OSHA regulates the handling of friable ACMs less than 50 linear or 50 square feet under the Asbestos Construction Industry Standard (29 CFR 1926.1101). Therefore, renovation or demolition activities involving the
disturbance of friable ACMs less than 50 linear or 50 square feet of ACMs must be performed in accordance with the requirements of 29 CFR 1926.1101.

OEPA does not regulate ACMs in quantities less than 50 linear feet or 50 square feet. However, OEPA does require that during any demolition activities that the demolition materials be kept adequately wet to prevent visible emissions.

ODOT may provide a plan note to the contractor to ensure that proper wetting is conducted during the demolition process to prevent this material from becoming airborne.

5.0 Types of Activities: Demolition, Renovation, or Maintenance

The ODOT Asbestos Guidance Flowchart (Appendix A) assists users with determining when asbestos inspections are required for ODOT work as well as the procedures for getting the inspections and any subsequent abatement coordinated, contracted, completed and documented. The flowchart guides the user through some of the various demolition, renovation, and maintenance scenarios. Initially, the user (ODOT Planning Staff and/or designers) of this guidance determines if an ODOT action is Demolition, Renovation, or Maintenance as defined below.

5.1 Demolition

Demolition is defined by the USEPA as “the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility”. Table 3 provides examples of building and bridge activities that would be classified as demolition projects and would require an asbestos inspection prior to these activities being performed.

<table>
<thead>
<tr>
<th>Activities Performed on Structures other than Bridges</th>
<th>Activities Performed on Bridge Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Wrecking/tearing down the entire building</td>
<td>- Wrecking/tearing down the entire bridge (Super Structure Replacement)</td>
</tr>
<tr>
<td>- Wrecking/tearing down a portion of a building that is load-supporting (beams or load-supporting walls)</td>
<td>- Wrecking/tearing down a portion of a structure that is load-supporting</td>
</tr>
<tr>
<td>- Intentional burning of a building, including intentional burning conducted for fire training purposes</td>
<td></td>
</tr>
</tbody>
</table>

5.2 Renovation

Renovation is defined by the USEPA as the “altering of a facility or one or more facility components in any way, including the stripping or removal of RACM from
a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions”. Table 4 below provides examples of building and bridge activities that would be classified as renovation projects and hence would require an asbestos inspection prior to these activities being performed.

<table>
<thead>
<tr>
<th>Table 4. Examples of Renovation Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities Performed on Structures other than Bridges</td>
</tr>
<tr>
<td>• Building is to remain and no load-supporting structural member will be removed</td>
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5.3 **Maintenance**

ODOT separates renovation projects from general maintenance activities to be performed by adding a maintenance category (herein referred to as “Maintenance”). To be classified as Maintenance, the activities being performed cannot alter the facility or any facility component and cannot disturb ACMs. Table 5 below provides examples of building and bridge activities that would be classified as Maintenance projects and would not require an asbestos inspection prior to these activities being performed.

<table>
<thead>
<tr>
<th>Table 5. Examples of Maintenance Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities Performed on Structures other than Bridges</td>
</tr>
<tr>
<td>• Building is to remain and no load-supporting structural member will be removed</td>
</tr>
<tr>
<td>• Replacing a door in a building</td>
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<tr>
<td>• Painting ceiling and walls</td>
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</table>
If it is known that ACMs are to be impacted during Maintenance, then these ACMs should be abated by an AHAC who is licensed by OEPA prior to the Maintenance being performed. If building materials suspected of containing asbestos are to be impacted during Maintenance, then an asbestos inspection is required to be performed.

Each Maintenance project must be thoroughly investigated by ODOT to ensure that it is properly classified and that none of the activities to be performed are considered renovation activities by the Asbestos NESHAP or OEPA asbestos regulations.

6.0 Asbestos Inspection and Reporting

6.1 Asbestos Inspection

After an action is classified as Demolition or Renovation it must then be determined when the asbestos inspection will be completed:

- Planning/Design or
- Construction

- ODOT Planning Staff and/or designers must contact District Real Estate (DRE) personnel and/or the District Environmental Coordinator to hire a consultant with hazard evaluation specialists (AHES) licensed in the State of Ohio on staff to conduct the asbestos inspection. It should be noted that:
  - An asbestos inspection for ODOT is conducted outside of the NEPA process. District Staff should have the asbestos inspection completed prior to the completion of Stage 3 plans.
  - If the asbestos inspection is not completed prior to the construction stage, the District Environmental Staff will ensure that the proper plan note is inserted into the construction plans to direct the contractor to perform the inspection and any necessary abatement. An example plan note is provided in Appendix B.
  - If building materials potentially containing asbestos are identified during demolition or renovation activities (materials not identified prior to construction plan development), then a change order will be issued by the District and a licensed contractor will be hired to complete the process. The change order process will comply with ODOT’s Construction and Material Specification (CMS) Section 109.05.C entitled Change Order Pricing and/or ODOT’s Construction Administration Manual of Procedures (MOP).

When a consultant is retained by ODOT to perform an asbestos inspection, the consultant’s cost proposal must include all necessary equipment to access all portions of a facility ensuring a thorough inspection can be performed. The
asbestos inspection must be performed prior to commencement of any demolition or renovation activities being performed and must be conducted in accordance with the inspection protocol outlined in the Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763 Subpart E - Asbestos-Containing Materials in Schools). If there are any variations from the inspection protocol with regard to the asbestos inspection, bulk sampling protocol, analyses, and/or reporting, the consultant is required to contact ODOT’s District Environmental Staff or the Office of Environmental Services, as appropriate, for further direction.

ODOT’s Task Order for the consultant AHES completing the asbestos inspection should contain the following information:

1) Whether the project is demolition or renovation,
2) Detail of the affected facility or part of the facility requiring the inspection, and
3) Contact information for the ODOT Representative receiving the inspection report.

6.2 Asbestos Inspection Report (AIR)

The AIR must meet the requirements outlined in OAC 3745-22 Asbestos Hazard Evaluation Specialist Application Content, Qualifications, Standards of Conduct, Article C, which are outlined below.

1) Date of inspection;
2) Address of the site;
3) Name, address and phone number of the site owner, client, or customer (i.e., District Headquarters)
4) Name, signature and AHES of the person writing the report;
5) Blueprint, diagram, or written description that identifies:
   a. Location, type of material, and approximate quantity of each ACM identified and each assumed ACM identified;
   b. Exact locations where bulk samples were collected;
   c. Date of collection;
6) Description of the manner used to determine sampling locations and the name, signature and AHES number of each person collecting samples;
7) Copy of the bulk sample analysis report, the name and address of any laboratory that analyzed the bulk samples, the date of analysis, and the name and signature of the person performing the analysis; and
8) Copy of the ONDRF with Section I, Section II, Section III, Section IV, Section VI, and Section VII being completed by the AHES. For assistance in filling out these required sections, the outside consultant can refer to OAC 3745-20-03 Standard for Notification Prior to Demolition or Renovation, which contains instructions for completing the form and/or contact the Office of Environmental Services. A blank example of an AIR is included as Appendix C.
The AIR along with the ONDRF will be submitted to the ODOT representative identified in the Task Order contract. The ODOT representative will forward the AIR and ONDRF to the District Environmental Staff so it may be uploaded to EnviroNet (ODOT’s web-based environmental document system).

7.0 ODOT Project Coordination

7.1 Internal Coordination

ODOT’s Office of Real Estate, Office of Planning, and/or the District Environmental Coordinator will determine if the project requires asbestos abatement. ODOT District Staff will either contract an AHAC to perform the asbestos abatement activities or prepare an asbestos removal plan note to be inserted into the construction plans.

If an asbestos removal plan note is inserted into the construction plans, the General Contractor who is awarded the construction contract will be responsible for hiring an AHAC to perform the asbestos abatement activities prior to the demolition and/or renovation activities being performed. Refer to Appendix B for a sample asbestos removal plan note.

8.0 OEPA Required Submittals

8.1 Notification of Demolition and Renovation Form

The AHAC and/or the demolition contractor will complete and submit the ONDRF (see Appendix D) and the AIR to the OEPA or the local air agency (see Appendix E for contacts), ten (10) working days prior to any renovation and/or demolition activities being performed. The ONDRF is required to be submitted in the following:

- Demolition of a facility, regardless of whether asbestos is involved. This includes all structures that will be intentionally burned for fire training purposes.
- Renovation of a facility when the amount of RACM stripped, removed, dislodged, cut, drilled, or similarly disturbed exceeds 260 linear feet on pipes or 160 square feet on other facility components or 35 cubic feet off facility components. (see Appendix F for two (2) project examples with calculations of quantity of material present.)
- Abatement at a facility when the activity involves the removal, renovation, enclosure, repair or encapsulation of friable ACMs in an amount greater than 50 linear feet on pipes or 50 square feet on other facility components.

OEPA waits a regulatory mandated 10 working days following the submittal of the ONDRF. Demolition and/or renovation activities cannot commence until after the 10 working day waiting period. If work commences before the 10
working day waiting period has been completed, the OEPA may issue a stop work order and issue a notice of violation.

8.2 Fees Associated with Notification of Demolition and Renovation Form

As indicated above, work on projects cannot begin until 10 working days after a COMPLETE original notification form, including payment, is submitted to the OEPA.

The following example calculation was given on the OEPA’s website for determination of the fees to be paid.

Example Calculation

Licensing Project Notification Fee(s): Per the OEPA regulations a $65.00 notification licensing fee is due per project if it involves an abatement/renovation with RACM greater than 50 linear or square feet or greater than or equal to 35 cubic feet. Complete the table below with RACM amounts from each project listed in Section 2.D. of the ONDRF. Place $65 in each row where this criterion is met.

<table>
<thead>
<tr>
<th>Project Detail</th>
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<td></td>
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<tr>
<td>Project</td>
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<tr>
<td>1</td>
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<td>2</td>
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<tr>
<td>3</td>
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<td>4</td>
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<tr>
<td>Total:</td>
</tr>
</tbody>
</table>

Applicable NESHAP Project Notification Fees: The NESHAP notification fees below apply if one of the following are on the completed ONDRF:

- The project(s) is part of an installation; or
- At least one project is a demolition; or
- At least one project is a renovation/abatement with the total RACM being greater than or equal to 260 linear feet, 160 square feet, or 35 cubic feet.

<table>
<thead>
<tr>
<th>NESHAP Notification Fee</th>
<th>A fee of $75.</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACM Fee</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

A $3 fee is charged per unit of the total linear and square feet of RACM. A unit is calculated by taking that total and dividing by 50. Only whole units are charged.

(a) Total linear feet + Total sq. ft. = _____
(b) Total in (a) divided by 50 = _____
(c) Number in (b) rounded down to a whole unit = _____
(d) Multiply the whole unit in (c) by $3 = _____

| $ | 3 |
9.0 Asbestos Abatement and Disposal

9.1 Asbestos Abatement

Demolition or renovation activities that will disturb RACMs in quantities greater than 260 linear feet, 160 square feet, or 35 cubic feet, must first be abated prior to these activities being performed. The RACMs must be abated by an AHAC licensed by OEPA. The AHAC is required to handle the ACMs in accordance with the requirements outlined in OSHA’s Asbestos Standard for the Construction Industry (29 CFR 1926.1101 Asbestos) regulation.

If materials containing asbestos are to remain at a facility during the demolition activities, the demolition contractor is required to handle the demolition debris in accordance with the requirements outlined in OSHA’s Asbestos Standard for the Construction Industry regulation. During the demolition activities the demolition materials must be adequately wet to prevent visible emissions.

9.2 Asbestos Disposal

The AHAC must manifest all RACM prior to removal from the project site and dispose of the RACM at a permitted landfill. The AHAC must contact the landfill of choice to ensure it accepts the ACMs, RACMs and/or demolition materials being transported or disposed of.

Landfills are NESHAP permitted to accept specific ACMs. NESHAP permits are issued to landfills in Ohio by the OEPA. A Construction and Demolition Debris (C&D) landfill or a solid waste landfill that has a NESHAP permit can accept RACMs. C&D landfills or solid waste landfills that do not have a NESHAP permit may only accept the following ACMs for disposal:

- Category I non-friable ACMs;
- ACMs from the renovation/demolition of a residential exempt structure; and
- ACMs from the renovation or demolition of non-residential structures that are not part of larger project that contain ACMs below the regulatory threshold amounts (260 linear feet/160 square feet/35 cubic feet).

<table>
<thead>
<tr>
<th>Clean-Up Fee</th>
<th>A $4 fee is charged per cubic yard of RACM. Calculate this by taking the total cubic feet and dividing by 27. Only whole cubic yards are charged.</th>
</tr>
</thead>
</table>
|              | (a) Total cubic feet divided by 27 = ____  
|              | (b) Number in (a) rounded down to a whole cubic yard = ____  
|              | (c) Multiply the whole cubic yard in (b) by $4 = ____ |

Total Amount Due (Add 1-4 above) $
10.0 Recordkeeping

The AIR, ONDRF, and any asbestos abatement activity and demolition activity performed is not part of NEPA requirements. However, any documents associated with the project, once completed, are required to be submitted to the ODOT representative outlined in the Task Order contract to be uploaded to EnviroNet.

11.0 LPA Projects

For federal and state funded projects that are sponsored by a local political agency (LPA), the LPA is responsible for complying with this Asbestos Guidance. This includes projects that have been processed through the federal-state fund swap program. The LPA must be able to provide documentation supporting compliance with this Guidance. For non-ODOT funded LPA projects, the LPA must follow the applicable asbestos regulations but is not required to follow this guidance.

12.0 References

U.S. National Archives and Records Administration (NARA)
   a. 40 CFR 61- Subpart M; National Emission Standard for Asbestos

U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)
   a. 29 CFR Part 1910, subpart D: Occupational Exposure to Asbestos; Final Rule
   b. 29 CFR Part 1926.1101: Occupational Exposure to Asbestos; Construction Industry Standard

U.S. E.P.A.
   a. 40 CFR Part 61, subpart A: Regulation for Asbestos
   b. 40 CFR 763 subpart G: Asbestos Abatement Projects; Worker Protection

U.S. Department of Transportation
   a. 49 CFR parts 171 and 172: Hazardous Substances Transportation: Asbestos; Final Rule

Ohio E.P.A.
   a. OAC 3745-20: Asbestos Emission Control
   b. OAC 3745-22: Asbestos Licensing and Certification
ODOT Asbestos Guidance Flowchart
APPENDIX B

Examples of ODOT Asbestos Plan Notes
ASBESTOS CONTAINING MATERIAL
ON BRIDGES

ASBESTOS ABATEMENT


THE CONTRACTOR SHALL ENSURE THAT THE ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL IS CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS. THE CONTRACTOR SHALL ENSURE THAT ALL DOCUMENTATION RELATED TO THE ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS IS SUBMITTED TO THE PROJECT ENGINEER OR DISTRICT ENVIRONMENTAL COORDINATOR FOR RECORD KEEPING WITHIN 2 WEEKS OF COMPLETION.

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY ABATE, TRANSPORT, AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E98400 ITEM SPECIAL - MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS - LUMP SUM
ASBESTOS NOTIFICATION

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT [ADD QUANTITY] OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM OR ASBESTOS PROGRAM
OHIO EPA, DAPC OHIO EPA, DAPC
P.O. BOX 1049 50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43216-1049 COLUMBUS, OH 43215


BASIS FOR PAYMENT – THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
APPENDIX C

Blank Asbestos Inspection Report
APPENDIX C

Printable Asbestos Inspection Report Form

Click Here
APPENDIX D

OEPA “Notification of Demolition and Renovation” Form and Instructions
APPENDIX D

OEPA “Notification of Demolition and Renovation” Instructions

Click Here

OEPA “Notification of Demolition and Renovation” Form

Click Here

OEPA “Notification Fee Worksheet

Click Here
APPENDIX E

Ohio EPA and Local Air Pollution Control Agency Map and Listing
APPENDIX E

Ohio EPA and Local Air Pollution Control Agency Map and Listing

Click Here
APPENDIX F

Example Asbestos Quantity Calculations to Determine if Asbestos NESHAP is Applicable
EXAMPLE 1

**Bridge Demolition** - The Asbestos Inspection report indicates that only one (1) ACM (caulking) was identified on the bridge. This ACM was considered to be in “poor” condition and hence is classified as RACM. The caulking has a diameter of ¾-inch and there is approximately 300 linear feet of the caulking on the bridge. Determine if the RACM quantity meets or exceeds the threshold quantity of 160 square feet specified by the Asbestos NESHAP regulation and hence would require abatement prior to demolition activities being performed.

**Step 1:** Convert ¾-inch to feet = 0.0625 feet.

**Step 2:** Multiply 0.0625 feet (the diameter) by 300 feet (the length). Result equals 18.75 square feet of RACM.

Due to the quantity of RACM identified being less than the Asbestos NESHAP quantity of 160 square feet, the asbestos-containing caulking is hence not regulated by the Asbestos NESHAP regulation and is therefore not required to be abated prior to demolition activities being performed.

EXAMPLE 2

**Bridge Renovation** - The Asbestos Inspection report indicates that only one (1) ACM (caulking) was identified on the bridge. This ACM was considered to be in “fair” condition, however during the renovation activities the caulking will be made friable. The asbestos-containing caulking is located beneath the 5-inch by 8-inch metal guard rail mounting plates that are fixed to the concrete parapet by bolts. The caulking was installed under each mounting plate to prevent water and salt from penetrating under the surface of the plate. There are approximately 120 mounting plates on the bridge holding the guard rail to the bridge. Determine if the quantity of asbestos-containing caulking to be made friable meets or exceeds the threshold quantity of 160 square feet specified by the Asbestos NESHAP regulation and hence would require abatement prior to renovation activities being performed.

**Step 1:** Multiply 5-inch by 8-inch. Result equals 40 square inches.

**Step 2:** Convert 40 square inches to square feet (40 square inches/144). Result equals 0.2777 square feet.

**Step 3:** Multiply 0.2777 square feet by 120 mounting plates. Result equals 33.33 square feet if RACM (Considered RACM because renovation activities will cause the ACM to become friable.)

Due to the quantity of RACM identified being less than the Asbestos NESHAP quantity of 160 square feet, the asbestos-containing caulking is hence not regulated by the Asbestos NESHAP regulation and is therefore not required to be abated prior to renovation activities being performed.

**NOTE:** Square foot measurements should always be used unless you are determining the linear footage of piping. Where material has fallen off of the facility and is piled beneath it, only then should cubic foot measurements be used.
APPENDIX G

Acronym List
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACM</td>
<td>Asbestos Containing Material</td>
</tr>
<tr>
<td>AHAC</td>
<td>Asbestos Hazard Abatement Contractor</td>
</tr>
<tr>
<td>AHERA</td>
<td>Asbestos Hazard Emergency Response Act</td>
</tr>
<tr>
<td>AHES</td>
<td>Asbestos Hazard Evaluation Specialist</td>
</tr>
<tr>
<td>CAA</td>
<td>Clean Air Act</td>
</tr>
<tr>
<td>C&amp;DD</td>
<td>Construction and Demolition Debris</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>DRE</td>
<td>District Real Estate</td>
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<tr>
<td>HAP</td>
<td>Hazardous Air Pollutants</td>
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<tr>
<td>LPA</td>
<td>Local Public Agency</td>
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<tr>
<td>MOP</td>
<td>Manual of Procedures</td>
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<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
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<tr>
<td>NESHAP</td>
<td>National Emissions Standard for Hazardous Air Pollutants</td>
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<tr>
<td>NVLAP</td>
<td>National Voluntary Laboratory Accreditation Program</td>
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<tr>
<td>OAC</td>
<td>Ohio Administrative Code</td>
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<tr>
<td>AIR</td>
<td>Asbestos Inspection Report</td>
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<td>Ohio Department of Transportation</td>
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<td>OEPA</td>
<td>Ohio Environmental Protection Agency</td>
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<td>ONDRF</td>
<td>Ohio Environmental Protection Agency Notification of Demolition and Renovation Form</td>
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<tr>
<td>ORC</td>
<td>Ohio Revised Code</td>
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<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
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<tr>
<td>RACM</td>
<td>Regulated Asbestos Containing Material</td>
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<tr>
<td>USEPA</td>
<td>United State Environmental Protection Agency</td>
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