# 4.4.19 ASBESTOS MANAGEMENT

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4.4.19.1 INTRODUCTION

Asbestos management is an integral part of design and project implementation for a substantial amount of bridge rehabilitation, roadway improvement and Right-of-Way (ROW) structure demolition work associated with transportation projects throughout New York State. Asbestos assessments are required for all Department work involving rehabilitation or demolition of building, structure, roadway or utility components of affected project sites. Where asbestos-containing material(s) have been identified and determined to require abatement as a result of a project, the project design must incorporate provisions for asbestos abatement and waste disposal. Asbestos-containing material is defined as any homogeneous matrix (uniform texture, color and application) containing greater than one percent (>1%) asbestos by weight. Also, contracting for and managing asbestos abatement work during construction and maintenance involves contractor qualifications confirmation, regulatory notification and work phasing. During and following abatement work record keeping and project documentation is required.

This section provides information required to select and implement appropriate asbestos management procedures where abatement of asbestos-containing materials associated with transportation construction and maintenance work is required.

4.4.19.2 SECTION OBJECTIVES

This section provides guidance to complete the following:

- Project Screening Determination
- Asbestos Assessment/Identification Investigation
- Specification Selection/Application
- Abatement Project Monitoring

Information is provided concerning selection and application of regulatory variances in connection with abatement of these materials and potential project constraints. Guidance is also provided regarding asbestos design, compliance air monitoring and project monitoring.

This section includes links to all appropriate current Department standard specifications and blanket variances, as well as current applicable state and federal regulations that apply to asbestos work. Applicable regulations are described in overviews and referred to specifically throughout the text.

4.4.19.3 DEPARTMENT POLICY

It is the policy of NYSDOT to conduct asbestos assessment, project design and abatement work in accordance with all applicable State and Federal regulations as part of its capital construction and maintenance work.
4.4.19.4  LEGAL BASIS

Project designers should be aware that National Environmental Policy Act (NEPA) and State Environmental Quality Review (SEQR) project classification(s) do not change based on the need to remove and dispose of asbestos-containing materials. As such, none of the questions on the NEPA checklist should be applied to asbestos (i.e., hazardous materials).

Links to the full applicable regulations described below are provided as Appendix A.

4.4.19.4.1 – Abstract of Laws/Regulations

**National Emissions Standards for Hazardous Air Pollutants (NESHAPS 40 CFR Part 61 Subpart M Asbestos Provisions)** - Subpart M of the NESHAPS regulation outlines and defines asbestos specific standards for asbestos milling and manufacturing operations, roadways, demolition and renovation work, spraying and fabricating operations, and for insulating materials. Standards for waste disposal associated with asbestos mills, manufacturing, fabrication, demolition, renovation and spraying operations are also outlined in this federal regulation. This part also sets standards for inactive waste disposal sites associated with asbestos mills, manufacturing and fabrication operations. Standards for use of air filtration as an engineering control and reporting requirements are also defined in this part. Active waste disposal sites are regulated under this regulation and standards are defined for operations associated with converting asbestos waste into non-asbestos material.

**OSHA Construction Standard (29 CFR 1926.1101)** - The OSHA Construction Standard for asbestos regulates worker asbestos exposure associated with demolition or salvage of structures where asbestos is present, removal or encapsulation of asbestos containing material, and installation of products containing asbestos. Also included are exposure and work practice standards associated with construction, alteration, repair or renovations of structures or structure substrates/portions that contain asbestos. Additional requirements are defined for asbestos spills and emergency clean-ups. Additional exposure standards are outlined for transportation, disposal, storage, containment and housekeeping activities involving asbestos or asbestos-containing products and construction activities.

Typical Department construction operations that can involve activities covered by this regulation include, but are not limited to, bridge repair/demolition, highway reconstruction, utility relocation and building demolition.

**OSHA General Industry Standard (29 CFR 1910.1001)** - The OSHA General Industry Standard applies to all occupational exposures to asbestos in all industries covered by the Occupational Safety & Health Act with the exception of construction work which is covered by 1926.1101. Typical Department maintenance operations that can involve activities covered by this regulation include, but are not limited to, bridge maintenance, vehicle brake and clutch work and building maintenance/renovation work. Application of OSHA asbestos regulations to all Department employees is enforced through Public Employee Safety & Health (PESH) of the New York State Department of Labor (NYSDOL).
This standard helps to define employer responsibilities regarding employee exposure to asbestos. Some of the more important provisions defined in the standard include the responsibility of the employer to conduct personnel monitoring, and to establish regulated areas wherever the personnel monitoring results indicate exposure levels greater than the excursion limit. Also included are provisions for employee training, medical surveillance, record keeping, building inspection/assessment and engineering controls during abatement.

**New York State Industrial Code Rule 56 (12 NYCRR 56)** - Industrial Code Rule 56 (12 NYCRR 56) was promulgated by the New York State Department of Labor under the Labor Law for purposes of protecting the public and workers from exposure to asbestos during asbestos abatement, building/structure renovation and building/structure demolition. Also intended was conformity to both the Asbestos Hazard Emergency Response Act (AHERA) and OSHA regulations, promulgated at the federal level.

The code also includes specific provisions for procedural standards to be followed when removing, enclosing, encapsulating, or disturbing asbestos-containing material. Also inclusive of those provisions is the handling of asbestos or asbestos materials in a way that may result in the release of asbestos fiber.

Other provisions include certification of persons employed in asbestos abatement work, licensure of abatement contractors, requirements for asbestos surveys, abatement project notifications and reporting/record keeping provisions.

**New York City Asbestos Control Program Regulations (Title 15, Chapter 1)** – The New York City Department of Environmental Protection (NYCDEP) asbestos regulations do not apply to State-owned property within New York City jurisdictional property boundaries, including the five New York City Boroughs and upstate watershed areas. Department bridges, ROW and building demolition projects on State-owned property are regulated under the State regulations (12 NYCRR 56). City-owned projects are regulated under local regulations (Title 15, Chapter 1). Title 15, Chapter 1 was originally promulgated by the City of New York prior to New York State adopting ICR 56. The purpose of the city law is for the protection of the public from exposure during asbestos related abatement, building renovation and building demolition. Similar to ICR 56, Title 15, Chapter 1 mandates appropriate training and certification of people employed in asbestos abatement work.

Specific to the five boroughs of New York City and enforced by the Department of Environmental Protection (NYCDEP), this local regulation outlines many of the equivalent procedural standards found in 12 NYCRR 56 for removal, enclosure, encapsulation and disturbance of asbestos containing materials. Although some of the technical requirements may differ on some of the procedures, the content is essentially the same.
4.4.19.5 PROJECT ANALYSIS AND EVALUATION

4.4.19.5.1 Asbestos Screening

Asbestos screenings should be conducted for projects that involve one or more of the following:

- Building demolition or renovation
- Bridge demolition or rehabilitation
- Utility disturbance
- Roadway resurfacing or reconstruction
- Concrete sidewalk replacement or rehabilitation

Screenings should be performed by Department personnel who are experienced, have had asbestos inspector initial and refresher training or are otherwise certified in association with assessment/inspection work. In addition to report documentation requirements, the purpose of this screening is to determine whether or not a consultant contracted assessment for asbestos identification, including suspect material sampling and quantification, is warranted. This determination is based upon whether the project involves rehabilitation or demolition work which may disturb suspect asbestos-containing building, structural, roadway, concrete sidewalk or utility materials.

The asbestos screening should typically not require physically entering and inspecting project site structures and/or utility accesses in order to determine whether suspect materials exist. The majority of involved structures can simply be screened for suspect materials by considering their function. For example, there is a high probability that any residential or commercial structure will contain at least several suspect materials. There will typically be some application of roofing, flooring, insulation, etc., that will be considered suspect in residential and commercial buildings. In addition, although 12 NYCRR 56 exempts buildings/structures constructed after January 1, 1974 from survey requirements and the OSHA Construction Standard has a similar exemption for various materials installed after 1980, these dates should not be considered definitive limits for all suspect asbestos construction materials. Construction materials that are considered non-suspect under OSHA include solid metal, wood, glass and PVC plastic. In addition EPA lists concrete as a non-suspect material under the Asbestos Hazard Emergency Response Act (AHERA) for school inspections. Therefore, solid metal, wood, glass and concrete materials should typically not be considered suspect as asbestos-containing.

In the case of utility conduit (electric, gas, telephone, telegraph, water, sewer, etc.) that will be impacted as a result of a project, there is again a high probability that a percentage of those utilities will include suspect materials. Depending on the number of utility companies involved and the quantity of utility conduits affected by the project, this determination can be made by either Department personnel or consultant staff. A project that may impact only one or two municipal service lines on a rural byway should only involve limited inquiries to local public works or utility companies in order to determine if suspect materials exist. This task could easily be accomplished by Department personnel. In the situation where municipalities or utility companies cannot confirm the existence of these materials through their records or when the project involves significant numbers of various utility parties, such as in the case for numerous metropolitan areas, then this part of the screening should be the responsibility of the consultant.
contracted for the asbestos assessment. In cases where utility record plans lack specifics on asbestos presence and consultant forces are unable to access the suspect utilities, confirmation sampling may have to be performed during the construction phase of the project.

Asbestos screenings associated with bridge rehabilitation or replacement typically should include review of original construction record plans and Regional Bridge Identification Number (BIN) folders. Record plans can be useful in indicating whether some of the materials used during original construction were asbestos-containing. The problem with these plans and material descriptions is that they may not account for materials which were used during maintenance, subsequent improvement projects or utility installations done by work permit. Regional BIN folders provide historic construction/maintenance information, including potential records associated with previous asbestos abatement. Despite these record sources, in many instances it may be necessary to visit the structure and visually confirm if suspect materials are present. Depending on the size of the project and accessibility of the suspect materials, it may be more appropriate to incorporate these responsibilities into a consultant contracted asbestos assessment.

Asbestos screenings associated with roadway resurfacing or reconstruction will not typically require a site visit unless other infrastructure is involved in the work (i.e., bridges, buildings, utilities, sidewalks, etc.). The primary suspect material associated with simple roadway resurfacing is asbestos modified asphalt concrete pavement. This was an experimental product that was used on a very limited basis in the mid 1960s and early 1970s under item 51EX or possibly other special asphalt items. Screening and assessment guidance for this material is provided on page 14 of this section.

Due to a lack of historical usage/application information, asbestos screenings associated with concrete sidewalk rehabilitation and replacement will require a site visitation to determine if suspect materials are present. The primary suspect material associated with concrete sidewalk work is joint filler. For specific sections of concrete sidewalk associated with bridge demolition/rehabilitation or roadway reconstruction (i.e., municipal street improvement project, etc.), screening for suspect joint filler should be performed concurrently with the other impacted infrastructure (bridges, buildings, utilities and roadways) screening work. For concrete sidewalks associated with American Disabilities Act (ADA) upgrades that involve multiple locations and multiple municipalities, screeners should conduct visual inspections based on common construction. Common construction may exist in a single municipality or it may exist throughout multiple municipalities along a single route or multiple routes.

Suspect materials can be assumed positive by Department staff conducting screenings, but should only be assumed negative when they are metal, glass, wood, PVC plastic and concrete. Determination of what other materials may be suspect in a project and the ultimate sampling/assessment of those materials should be performed by a certified asbestos building inspector.

4.4.19.5.2 Asbestos Assessment and Quantification

Following determinations made during the asbestos screening which conclude that suspect asbestos-containing materials do exist in association with building, structural, roadway, concrete sidewalk or utility materials, and these materials will need to be disturbed during construction, an asbestos assessment will need to be performed using NYSDOL certified asbestos inspection
staff. The assessment should be performed once the preferred alternative is known. If the project is being designed by a consultant, the asbestos assessment work should be done by that consultant or a qualified sub-consultant. If the project is being designed by in-house staff, asbestos assessment services can be furnished via asbestos term agreements which are managed by the Consultant Management Bureau or by use of certified Department staff. The purpose of the asbestos assessment is to definitively confirm, through laboratory analyses, whether the identified suspect materials are asbestos-containing (> 1% by weight). In addition, this investigation can be contracted as a means to obtain other critical information useful for contractors bidding the abatement work. The results of the asbestos assessment shall be documented in an asbestos assessment report which shall include, at a minimum, the following:

1. the data collection techniques and analysis procedures used;
2. quantity estimates of confirmed asbestos-containing materials;
3. a condition assessment of confirmed asbestos-containing materials with a clear determination of friability;
4. written descriptions and structure or site drawings indicating the location of confirmed asbestos-containing materials;
5. determination and recommendation of the standard asbestos specification, associated payment items and available blanket and/or applicable variances.

It is also beneficial to provide adequate logistical and structural descriptive text regarding the affected structures.

Along with the report, under separate cover, cost estimates for abatement and recommendations for site specific variances which are either required due to regulatory constraints or are beneficial for reasons relating to cost, scheduling, project phasing, etc. shall be provided. Special notes associated with the need for a variance, logistics, construction phasing, etc. shall also be included under this separate cover.

All asbestos assessment and project design work shall be performed by NYSDOL certified personnel and NYSDOL licensed firms following appropriate protocols. Laboratories used for analysis of bulk samples collected during the investigation/inspection shall be accredited by the New York State Department of Health Environmental Laboratory Approval Program for analysis of friable and non-friable organically bound (NOB) asbestos samples.

The Base Scope of Services for Department consultant project design work can be found at:

https://www.dot.ny.gov/divisions/engineering/design/consultant-management/base-scope

Following Department approval of the scope of services submission, consultant staff should visit the site(s) to be investigated and develop an accurate description and estimate of the number of suspect materials which require sampling. Sample quantities shall also be indicated with estimates provided for both friable analyses (Polarized Light Microscopy - PLM) and NOB analyses (Gravimetric Reduction & PLM with negative confirmation by Transmission Electron Microscopy - TEM).
The following criteria shall be considered when estimating bulk sample quantities:

1. Separate structures and separate vintages of a single structure shall be sampled individually.
2. A minimum of three (3) samples shall be collected of each homogeneous material associated with bridge survey work.
3. A minimum of two (2) samples shall be collected of each homogeneous material associated with building survey work.
4. All sampling and laboratory analysis shall conform to the multi-layered provisions described in NESHAPS 40 CFR Part 61.
5. Samples in a homogeneous group shall be analyzed by Polarized Light Microscopy (PLM) individually until either the entire group has been analyzed and all results are negative or a positive result is obtained. A positive result would cause analysis to be terminated for the remaining samples in the group.
6. Transmission Electron Microscopy (TEM) confirmation on a group of NOB samples, found to be all negative for asbestos by gravimetric reduction and PLM analysis, shall also be performed on individual samples until either the entire group has been determined negative or a positive result is obtained.

Following Department approval of the proposed sampling plan, consultants can progress with the asbestos assessment. Projects with bridge rehabilitation or demolition involving asbestos assessments sometimes involve suspect materials that are identified in record plans but are not easily accessible during the assessment. Such materials can include buried utilities, internal bond breakers, subsurface sealers/membranes, etc. The consultant’s assessment report must clearly identify any suspect materials that are inaccessible, so that the Department will have adequate time to develop a plan for sampling during either design or construction. For suspect materials that cannot be accessed prior to construction, Regions should incorporate design safeguards which would prevent potential costly project delays that might occur if contractors encountered the materials during construction. Such safeguards could include assuming the material(s) positive and incorporating items into the contract to perform this work should it be needed. This approach should incorporate confirmation sampling at the point of least impact to construction in order to provide for item deduction if the material(s) are found negative and to minimize downtime during the period the samples are being analyzed.

If consultant forces are used, an alternative assessment approach might include reducing the field visits by the consultant by eliminating the sampling plan step referenced above. This may make sense for straightforward or smaller sized projects where Regional staff have a good idea of what suspect materials exist.

Asbestos assessments associated with building demolition shall include destructive testing methods, when feasible, in order to access concealed suspect materials. Confirmed asbestos-containing materials located within walls, chases or any other concealing features of the building to be demolished shall be identified and described in the report. In addition, any site specific impedances to performing the abatement work should be identified in the report including lack of structural integrity, confined space entry, lack of onsite utilities, etc.

**Assessment Documentation** - In accordance with the requirements in 12 NYCRR 56-5.1(g) a copy of all asbestos demolition survey reports must be transmitted by either the
building/structure owner or his agent to NYSDOL through the Division of Safety & Health, Asbestos Control Bureau. A copy of every controlled demolition or pre-demolition survey is required to be sent to the NYSDOL office closest to the project. **This transmittal shall be the responsibility of the consultant forces, if performing assessment work for the Department.** Addresses of Regional NYSDOL offices are provided at:

http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ASBESTOS.shtm.

Copies of all asbestos building and bridge survey reports must be maintained in each Region. Asbestos bridge survey reports are particularly important because they provide documented reference information that will be used with future rehabilitation or reconstruction work. Copies of the bridge reports or report summaries should be maintained in the Regional BIN folders/files or other existing electronic or manual filing system(s). An example of an asbestos information sheet that can be used to summarize the information is provided as Appendix H.

**Assessment Authority** - The Department's certified personnel and/or its agents (consultants) have the legal authority to collect bulk samples from buildings for asbestos determination in conjunction with highway projects or planned highway projects. As a courtesy, consultants shall provide adequate notification to the property owners prior to the assessment by either correspondence or personal contact.

Section 30 of the Highway Law gives the Department of Transportation, its officers, agents or contractors engaged on highway projects, the authority to enter upon property for the purpose of "making surveys, test pits, test borings, or other investigations..." In addition, Section 404 of the Eminent Domain Procedure Law reiterates the language found in the Highway Law and further provides that the "condemner" (NYSDOT) shall be liable to the owner for any damages caused by the condemner as a result of the entry, but such damages shall not entail duplicate payment of damages to be compensated for by the "condemner" pursuant to Article 3 of the Eminent Domain Procedure Law.

**Use of Historical Records/Previous Investigations** - It is not uncommon to discover during the asbestos assessment that there exists either construction documentation or records of previous material sampling for the affected structures.

If these records or sampling results specifically confirm or negate asbestos content in any suspect materials, then they should be incorporated into the asbestos assessment and final report. If the historical records are general in their indication of asbestos content or if previous sampling and analysis performed is determined to be deficient, confirmation sampling and analysis should be performed. Examples of deficient sampling could include not enough samples for a homogeneous material showing a negative result or a lack of layer separation for multi-layered systems. Examples of deficient analysis could include results reported in ranges of percentage content at or near 1% or inappropriate/outdated analysis methods. In addition, it is not uncommon practice for many asbestos inspectors to assume positive obvious asbestos-containing materials as part of their assessments. A few of the most obvious asbestos-containing materials easily identified by their application include transite, aircell pipe insulation and woven gaskets. Department personnel and consultant inspectors should not feel the need to confirm by analysis what is readily apparent for some materials. However, any question or doubt should be confirmed through laboratory analysis.
**Public Works Specifications** - The Public Works Specification books which list and provide descriptions for many of the construction materials historically used for highways, parkways, bridges and similar work are typically referenced by Department and consultant staff during asbestos investigation assessment for projects. These documents provide valuable information regarding likely asbestos containing materials used which were specified by individual items for projects.

**Utilities** - Many of the asbestos cement conduits, pipes and insulated lines encountered on bridges and underneath the ground are owned by utilities. The following guidance is provided regarding the utility asbestos removal in association with Department projects:

1. Blanket Variance (BV) 14 has been approved for restricted use by Department, Thruway, Canal Corporation and County Highway contractors (see section 4.4.19.6.1). This variance is also allowed to be used by utility owners or their contractors working in Department, Thruway, Canal Corporation or County Highway ROW.

2. Project asbestos abatement work which is the Department's responsibility will include the asbestos removal work in our contract, as bid items rather than agreed price or force account items.

3. Project asbestos abatement work which is the utility's responsibility will include early notification, during the design process, to the utility owner that there is a need to remove asbestos-containing material. If the utility desires or when the utility's schedule would delay our contractor, the Region should include the work under the Department contract and back charge the utility company pursuant to a betterment agreement. The removal work should be performed using lump sum - force account/agreed price items.

**Asbestos Encounters in the Field** - Department personnel may, on occasion, come in contact with asbestos-containing materials while in the field. These encounters can include bridge maintenance activities, construction inspections, project design scoping, project environmental screening, etc. Asbestos-containing materials do not typically pose a health concern unless there is a degree of damage to them and/or there exists a mechanism for fibers to become airborne (i.e., physical disturbance, erosion, lack of integrity, etc.). If intact suspect materials are encountered in the field, effort should be made not to disturb them in carrying out field related tasks. Also, documentation should be generated that informs other project personnel of the suspected existence of these materials. If these suspect materials will be disturbed as a result of a project, then an asbestos assessment is warranted. If damaged suspect materials are encountered in the field, access to the locations of damage should be restricted until a consultant contracted or in-house assessment is completed. If the damaged materials are found to be asbestos-containing by consultant testing, access to the areas of damage should remain restricted until abatement has been completed. Again, documentation should be generated that informs other project personnel of the suspected existence of these materials. If these damaged materials are determined to be the responsibility of others (i.e., utility, municipality, etc.), then those entities should be contacted by Department personnel.

In an effort to provide an updated list of common commercial products and materials which are suspect of containing asbestos, please refer to the following groupings:
TRANSITE (ASBESTOS CEMENT) - This product is typically non-friable (unable to pulverize or reduce to powder with hand pressure) with a high percentage asbestos content (>20%). The most representative products include, but are not limited to:

1. Insulating Panels
2. Wallboard Sheets
3. Exterior Siding
4. Laboratory Hoods, Bench Tops, Sinks, etc.
5. Water & Sewer Conduit
6. Electrical Conduit & Panels
7. Vents

ROOFING MATERIALS - Roofing applications are typically non-friable and low percentage in asbestos content (<15%). The most representative applications include, but are not limited to:

1. Asphalt, Base, Finishing, Flashing & Waterproofing Felts
2. Reinforced Flashing Sheets
3. Flashing Tars
4. Flashing Cements
5. Waterproofing Flashings
6. Damp-proofing
7. Sealers

FLOORING MATERIALS - Flooring applications are typically non-friable and low percentage in asbestos content (<15%). The most representative applications include, but are not limited to:

1. Asphalt Tile
2. Vinyl Tile
3. Vinyl Sheet (linoleum)
4. Vinyl Backer Material
5. Mastic
6. Stair Treads
7. Leveling Compounds & Fillers

THERMAL SYSTEM INSULATION (TSI) - Thermal System Insulation applications are typically friable and medium percentage in asbestos content (15 - 45%). The most representative applications include, but are not limited to:

1. Pipe Insulation
2. Pipe Fitting Insulation
3. Valve Packing
4. Boiler Insulation
5. Breaching Insulation
6. Duct Insulation
7. HVAC Gaskets
8. HVAC Seam Tape
9. Repair Patching

**SURFACING MATERIALS** - Surfacing System Materials vary in type of application, friability and asbestos percentage content. The most representative materials include, but are not limited to:

1. Spray-On Fireproofing/Insulation
2. Base, Finish, Acoustical & Decorative Plasters
3. Interior Textured Coatings

**MISCELLANEOUS MATERIALS** - There are a wide variety of products and materials which are lumped under the miscellaneous type. There is a large variation in type of application, friability and percentage content. The most representative materials include, but are not limited to:

1. Ceiling Tiles
2. Putty/Caulk
3. Door Insulation
4. Sheetrock/Wallboard
5. Sheetrock Tape
6. Sheetrock Joint Compound
7. Blown-In Insulation
8. Various Packings & Ropes
9. Various Gaskets
10. Various Fabric Applications (Lab Gloves/Lab Blankets/Stage Curtains/Vibration Isolation Cloth, etc.)
11. Chalkboards
12. Wiring Insulation
13. Lighting Fixtures
14. Friction Shoes
15. Various Coating Applications
16. Various Asphalt Applications

**BRIDGE/HIGHWAY MATERIALS** - Asbestos applications, related to bridge and highway construction, typically involve several of the materials and products delineated above. Many bridges carry asbestos cement pipes (transite pipes) as conduits for electrical and/or telephone feeds. These pipes are normally found as banks of pipes located beneath the bridge between the girders or encased in the deck or sidewalk of the bridge. Asbestos cement pipes can also be found passing through footings and/or abutments of bridges. Older structures extending over railroad tracks may contain sheets of transite applied to the underside of the deck.

Water pipes which are carried through many bridges may be found to have asbestos-containing insulation either on the straight runs of pipe, the joint fittings, or both. The insulation can be in the form of tar paper or woven material and may be encased with sheet metal, canvas, tar coating or a combination.

Other asbestos applications with regards to bridge construction include graphite-coated pads.
used as a bond breaker between the tops of the abutments and the bottom of the approach slabs. Asbestos caulking material was also used for numerous applications on railroad bridges and around railing base plates and in concrete joints on highway bridges. Asbestos can also be found in the form of waterproofing membranes used between concrete layers and/or asphalt layers on bridge decks or limited as a sealer surrounding bridge drainage scuppers.

**Dum Dum for Metal (Asbestos Bridge Coating)** - In 1996 during the design phase for several upstate bridge rehabilitation and painting projects, an asbestos-containing protective coating was identified on the steel members of a few structures. This coating, known as Dum Dum for Metal, was primarily applied as a thermal, salt and/or water protective coating on steel spanning railroad lines and below open deck grating. In addition, and to a lesser extent, this coating has been applied to steel members 5 to 10 feet back from piers and abutments and beneath joints. Historical application dates range from the mid 1950s to the early 1970s.

All steel structures with existing paint applied prior to 1981 are currently considered suspect for having residual asbestos-containing coating unless sampling and analytical testing has confirmed otherwise or if previous 100% paint removal or asbestos abatement can be documented. Likely application locations include the following:

- Beneath open steel grates on interior girders, cross members and girder fascias
- Beneath joints and on girders 5 to 10 feet back in a longitudinal direction from piers and abutments

Sample collection by either in-house or consultant certified staff shall be conducted in accordance with the following protocol:

- Execute separate bulk sampling strategies for each suspect structure
- Minimum sample quantity shall include three (3) bulk samples per homogeneous area
- Sample locations shall be random and be representative of likely applications (see above)
- Samples collected shall be comprised of entire coating(s) application thickness
- Coating samples shall be analyzed in accordance with NYSDOH ELAP-NOB procedures
- If all samples in a group are found negative by PLM, TEM confirmation analysis shall be performed on all three samples in the homogeneous group

Regional bridge inspection and asbestos consultant forces have completed initial assessment sampling on most suspect state and local bridges for presence of dum-dum. Prior to conducting any additional asbestos testing that may be necessary in association with planned rehabilitation or demolition work, project designers and/or inspectors shall review existing sample results that are available from these initial assessments. Regional Environmental Unit Supervisors should be contacted for access to this data.

**Masonry Coatings** - Presence of asbestos has also been found in a limited number of bridge masonry coating applications over the past few years by our consultant forces. Applications confirmed positive by sampling have been identified in bridge record plans by item numbers 310B and 310D, Textured Concrete Finish Paint. However, material descriptions for these items do not reference use of asbestos. The limited applications of positive masonry coatings that have been identified thus far have mostly been found to be thick in application and rough in appearance as compared to much of the thin/smooth protective sealers typically applied on some
of our bridges. Application locations can include abutment walls and piers on steel girder structures and possible universal application on concrete structures. Sample collection and analysis shall be conducted similarly to the coating protocol listed previously (see Dum Dum for Metal above).

**Asbestos Modified Asphalt Concrete Pavement** - Small percentages of asbestos fibers were used as reinforcement for asphalt paving mixtures in the mid 1960s and early 1970s. Asbestos modified asphalt concrete pavement may have been constructed under experimental item 51EX or other special asphalt items. These asbestos asphalt pavement courses typically contained 1.5% asbestos by weight, which, when considered by themselves would classify the material as asbestos-containing and be subject to 12 NYCRR 56 during removal. If the record plans for projects involving disturbance of pavement indicate that an asbestos modified asphalt concrete pavement was used, then the pavement should be sampled and analyzed to determine asbestos confirmation. Samples collected of the asphalt should be representative of the entire depth of what was put down. In accordance with the response from NYSDOL regarding this matter and provided in Appendix 4.4.19.11.6., the asbestos content measured by weight percentage should be representative of the entire material which was put down, including all courses. If the results indicate weights of 1% asbestos or less, then the requirements of 12 NYCRR 56 would not apply to the project. If the results indicate asbestos content, but less than 1%, then the work should specify removal either under a heated state or by bucket loader or similar equipment with the application of water during removal. Dry cold milling, grinding or sawing should be avoided altogether for pavements containing any percentage of asbestos. If the results indicate weights of greater than 1% asbestos then alternative options for the work should be considered, including overlayment. Options that include removal of confirmed asbestos-containing asphalt will require approval of a site specific variance from NYSDOL.

**Concrete Sidewalk Joint Filler** – Several Regions have found a limited amount of asbestos-containing sidewalk joint filler in association with capital construction projects involving replacement or reconstruction of concrete sidewalks as part of ADA work, as part of larger street reconstruction projects and as part of bridge replacement projects. Using certified in-house or consultant staff, three (3) samples should be collected of each type of suspect joint filler identified during screening activities. For ADA projects involving multiple locations and multiple municipalities, sampling should be grouped (to the extent possible) to represent common construction of entire municipalities, individual routes through multiple municipalities and/or multiple routes. Regional Environmental Unit staff shall maintain a summary of all concrete sidewalk joint filler results. Should statewide sampling efforts show a consistent trend in negative results, NYSDOL will be contacted to determine if overall screening/assessment activities associated with concrete sidewalk joint filler can be scaled back or otherwise eliminated.

### 4.4.19.6 INTERAGENCY AGREEMENTS

A NYSDOL asbestos handling license has been obtained for the entire Department including the Main Office and all the Regions. The responsibility for maintaining this license rests with ESB. In addition, several Main Office and Regional staff have completed accredited training which enables them to obtain Project Designer and/or Building Inspector certification(s). Maintaining the project designer and building inspector certifications in the Regions provides benefits in
association with simple assessment and design work that does not warrant use of consultant resources (preliminary screening, bulk sampling, special note preparation, standard specification recommendations and pay item selection). The responsibility for obtaining and maintaining these certifications rests with each appropriate Region and Main Office functional unit.

Together with the responsibility of maintaining the Department asbestos handling license by the Office of Environment, it is important that all Department personnel involved with asbestos issues comply with 12 NYCRR 56. If an abatement contractor or consultant on a project violates the regulation, then their license can be revoked. Similarly, if Department personnel violate this regulation (i.e., removing asbestos without certification, entering regulated work areas without certification, etc.) fines can be assessed and the license for the entire Department can be revoked.

4.4.19.6.1 NYSDOT Blanket Variance 14

As of September 6, 2006, the effective date of the amended State asbestos regulation, NYSDOT Blanket Variances (BV) 1 through 13 are null and void. The amended regulation now incorporates new provisions for exterior, non-friable ACMs in Special Projects Section 56-11.6. However, the amended regulation still does not specifically address abatement of asbestos materials which are located underneath the ground, buried in concrete, suspended from a bridge, etc. Section 56-11.6 will apply to most building exterior non-friable ACMs (i.e., roofing, siding, window caulk, etc.), however the parameters and criteria outlined throughout the regulation still lack specific applicability to asbestos abatement in connection with bridge and roadway ACM abatement.

Blanket Variance 14 was most recently renewed by NYSDOL on June 5, 2012 for use in association with bridge, right-of-way and highway asbestos abatement. BV 14 can be used by NYSDOT, the NYS Thruway Authority, the NYS Canal Corporation and County Highway Departments statewide.

Payment items for asbestos-containing bridge and highway material removals reference use of BV 14. Site specific application of BV 14 depends on several logistical factors and decisions on the application of BV 14 to a particular project must be determined in connection with selection of the corresponding payment item for associated material abatement work. A brief description of BV 14 is provided as follows and a full copy is provided as Appendix G.

Blanket Variance 14, Statewide Bridges & Highways - Provisions included in this variance allow for the removal of a variety of non-friable materials from bridge surfaces and substrates. These include various bond breakers, joint fillers, caulks, grouts, sealers, utility conduits, and similar type applications. In addition, provisions are included for removal of buried non-friable pipe in the ROW in connection with project work. Also included are provisions for removing asbestos coatings from structural steel on bridges during both rehabilitation/demolition work and during bridge painting.

The complete BV 14 lists all of the required conditions set forth by NYSDOL. If any of these conditions cannot be met, then the project must either comply with the regulation as written or have a site specific variance approved for the work. Typically economic and feasibility factors associated with full compliance of the regulation determine the need to have a site specific variance petition prepared and submitted to NYSDOL for approval. Most bridge and roadway...
abatement projects, unless minor in scope, which do not meet the criteria of BV 14 (see Section 4.4.19.7.3) will require a site specific variance mainly due to offsetting the abatement cost.

4.4.19.7 PROJECT DEVELOPMENT AND CONSTRUCTION GUIDANCE

4.4.19.7.1 Standard Specifications and Payment Item Selection

Asbestos project design for plans, specifications and estimates (PS&E) shall be performed during project phases V or VI. Standard specification and contract pay item selection/recommendation must be performed by NYSDOL certified personnel and NYSDOL licensed firms. This can be accomplished using either consultant or Department staff.

Specifications and contract pay items provided in Section 210 of the Standard Specifications are provided as Appendix C. Payment item categories, including unit price, lump sum and fixed price lump sum selections and standard specification with regulatory or no regulatory variance designations, are summarized below.

BUILDINGS
Asbestos-containing materials designated for abatement under this category, with use of the standard specification and no regulatory variance designation, include:

- **Roofing** – Including built-up roofing, rolled roofing, roofing shingles, roof flashing, roofing cement, etc.
- **Siding** – Including asphalt shingles, transite siding, galbestos siding, tar paper, etc.
- **Window Caulking and/or Glazing** – Including entrance/window caulk, window pane glazing, etc.
- **Flooring/Mastic** – Including floor tile, sheet flooring, mastics, etc.
- **Ceilings** – Including ceiling tile, plaster ceiling, transite ceiling, sheetrock/spackel on ceilings, etc.
- **Thermal System Insulation (TSI)** – Including boiler insulation, pipe insulation, breaching insulation, duct wrap insulation, etc.
- **Miscellaneous** – Including wall plaster, transite wall material, sheetrock/joint compound on walls, blown-in insulation, gasket material, patch cement, sealers, grouts, wiring insulation, loose debris, etc.

BRIDGES AND HIGHWAYS
Asbestos-containing materials designated for abatement under this category, with use of the standard specification and either regulatory variance or BV 14 designation, include:

- **Concrete Encased Pipe** – Includes transite conduit, epoxy wrapped conduit, tar paper wrapped conduit, etc.
- **Underground Pipe** – Includes transite conduit, epoxy wrapped conduit, tar paper wrapped conduit, etc.
- **Suspended Pipe** – Includes transite conduit, epoxy wrapped conduit, tar paper wrapped conduit, etc.
- **Bond Breaker and/or Joint Filler** – Includes bearing pads, slip-sheet packing, vapor
barrier, expansion joint material, membranes, crack fillers, sealers etc.

- **Caulking** – Includes various bridge, hand rail and guide rail caulks.
- **Miscellaneous** – Includes coatings, transite electrical box panels, wiring insulation, loose debris, etc.

Specification recommendation and payment item selection by consultant, or DOT personnel who are certified, is typically performed as an inclusive design process. The standard specifications were developed and implemented as a means of simplifying the abatement design process. Once identified, the standard specification, combined with project specific Special Notes and diagrams, typically provides the overall project description and requirements needed for the contract documents and abatement completion. Special Notes on asbestos requirements provide specific information to the contractor that are not provided in the standard specification or indicated variance(s). In addition to reaffirming regulatory requirements, special notes can be used to appropriately identify variances, estimated material quantities and project constraints to the contractor. Such constraints could include schedule, lack of on-site utilities, logistics, etc.

The Department has trained and certified a number of Design and Environmental staff as EPA and NYS accredited asbestos project designers. This certification along with Department licensure allows in-house design of asbestos abatement in connection with our construction and maintenance projects. In-house certified staff can be used to perform standard specification recommendation, payment item selection, determine variance application and develop Special Notes for incorporation into PS&E packages. Use of consultant or Department staff generally depends on whether a consultant contracted asbestos assessment needs to be performed or if a site specific variance petition needs to be prepared and submitted to NYSDOL for approval. If a consultant is required to perform an assessment on a project, the scope will typically include design functions. The Base Scope of Services for Department consultant project design work can be found at:

https://www.dot.ny.gov/divisions/engineering/design/consultant-management/base-scope

Also, if the design requires a site specific variance petition to NYSDOL, the petition process is more easily accomplished by consultant forces. Generally, certified Department staff may be used on projects where the work can be performed either by applicable or blanket variance, or without a variance at all. Minor project work should typically not require any regulatory variance.

Assessment of the feasibility of variance application to each project and identification of the appropriate corresponding payment item for the work should be performed during the design phase of the project. When materials requiring removal are not specifically listed, the item for the removal and disposal of miscellaneous asbestos containing materials (either Buildings or Bridges & Highways) should be used.

All Work Zone Traffic Control devices outside the regulated asbestos work area required by any NYSDOL regulatory variance shall be paid for separately. Other work area delineation materials (i.e., construction fence, visual barrier, etc.) that may be required under a variance shall be included in the bid price for the associated asbestos pay item.

Blanket Variance(s) associated with identified payment items in the contract documents shall be
listed in the SUPPLEMENTAL INFORMATION AVAILABLE TO BIDDERS (CONR9).

4.4.19.7.2 Applicable Regulatory Variances

The 2006 amendment to 12 NYCRR 56 includes abatement procedures for almost all previously existing applicable variances. Abatement procedures for roofing, siding, floor tile, ceiling tile, glovebag operations, wrapped piping, etc. have all been incorporated into the 2006 regulation amendment. Currently there are only four applicable variances that have been approved by NYSDOL following the adoption of the regulation amendment. A brief description of each existing applicable variance is provided as follows and copies of each are provided in Appendix D.

1. AV-A-1, Controlled Demolition of Municipally-Owned Vacant Residential Buildings/Structures Up to 3-Stories in Height – Provisions included under this variance allow for Municipalities to demolish vacant residential buildings/structures without prior abatement of some non-friable ACMs. All friable ACM and Non-friable ACM that is likely to become friable during demolition is required to be removed in accordance with the regulation prior to demolition activities. State agencies and authorities are not considered municipalities and are not allowed to utilize this variance for their projects. However, similar provisions may be obtained for State projects through submission and approval of a SSV.

2. AV-A-2, Negative Air Ventilation Exhaust Greater than 25 Foot in Length – Provisions included under this variance allow for increased negative air exhaust duct size(s) and use of booster fan units by the abatement contractor in situations that require greater than 25 feet of ventilation exhaust duct.

3. AV-A-3, Non-friable ACM Floor Covering Mastic Removal Using Chemical Methods along with Low-speed Floor Buffers – Provisions included under this variance allow for use of chemical strippers and low-speed buffers to remove floor mastic.

4. AV-A-4, Removal or Cleanup of Intact, Minor Size Non-friable ACM Floor Tile – Provisions included under this variance allow for minimal engineering controls associated with the removal and disposal of intact floor tiles that have become detached from their substrate and amount to less than ten (10) square feet of area.

The complete individual variances provided in Appendix D list all of the required conditions set forth by NYSDOL. Since AV-A-1 cannot be used by NYSDOT and AV-A-2, AV-A-3 and AV-A-4 will be implemented by abatement contractors in the field, there are currently no payment items in Section 210 that reference these variances.

In addition, with regard to abatement of interior ACM walls, the amended regulation incorporates language that now allows for removal of wall plaster, wallboard, materials attached to walls, materials buried in walls, etc.

4.4.19.7.3 Site Specific Regulatory Variances
The Labor Law permits the Commissioner of Labor to grant variances to the procedures delineated in 12 NYCRR 56 when a petitioner can demonstrate, for either a statewide application or a specific project, that full compliance with 12 NYCRR 56 constitutes a hardship and that the petition procedures will ensure equivalent or greater public health and safety during the work. Statewide application of a variance petition is considered blanket in type because it can be used on multiple projects and typically does not expire for several years. Individual project application of a variance petition is considered site specific in type because it can be used only for a single project site or structure and typically expires following completion of the work.

Project site specific variances are typically required for projects where the criteria of either an applicable variance or blanket variance cannot be feasibly met. In many instances that involve materials or applications which are not covered by either an applicable or blanket variance and it is either not feasible or cost prohibitive to comply with 12 NYCRR 56, a project site specific variance must be obtained.

The preparation of a site specific variance petition is typically performed by the party who has performed the asbestos assessment and made the recommendations for the appropriate payment items. The determination for the need to petition NYSDOL for a project site specific variance should have been completed as part of the assessment. The asbestos assessment should have included review of existing applicable and blanket variances and concluded in a determination for the need to obtain a project site specific variance for the work.

Project site specific variances involve preparation of a petition application and a review fee of $350.00 to be submitted to the NYSDOL Office of Engineering Services. The review period can be expected to involve anywhere between two and eight weeks by NYSDOL. The late Spring and early Summer months typically involve longer review periods due to the backlog of variance petitions caused by summer school construction work. It is critical that if consultant inspections determine the need to obtain a project specific variance for the work, those petitions should be prepared and submitted directly following review of the inspection report by the Region so that the approved variance can be provided with the Plans, Specifications and Estimates (PS&Es) prior to project letting. If the variance petition has not been approved by PS&E completion, then a copy of the petition application should be provided in the PS&E.

Many asbestos abatement contractors bid asbestos work based on their ability to obtain a less cost prohibitive project specific variance for the work. There currently is no restriction on abatement contractors performing Department work from petitioning NYSDOL for their own project specific variance. Although contractors are permitted to petition NYSDOL for these variances, the Region should require review of these applications prior to submission for NYSDOL approval. Either Regional or consultant staff should verify that the information in the contractor petition is correct and applicable to the project.

### 4.4.19.7.4 Compliance Air Monitoring

12 NYCRR 56 now requires that all compliance air monitoring associated with asbestos abatement activities be contracted independently by the Department. Contractors and/or asbestos subcontractors are no longer allowed to provide these services under their work. All compliance air monitoring services shall be provided through the Asbestos Services Term Agreement.
contracts. These contracts cover Upstate West (Regions 3, 4, 5 & 6), Upstate East (Regions 1, 2, 7 & 9) and Downstate (Regions 8, 10 & 11). Requests for these services should be directed to Consultant Management Bureau through the Regional Construction Group at least two months prior to the start-up of any asbestos work on the contract. Compliance air monitoring is required during asbestos abatement as follows:

- On small and large size asbestos projects (greater than 10 square feet or 25 feet of ACM) involving removal/abatement inside negative pressure enclosures
- For minor sized asbestos project(s) (less than 10 square feet or 25 feet of ACM) if the project consists of multiple minor size work areas that in total amount to greater than the small/large project size and involve removal/abatement inside a negative pressure enclosure
- For projects involving asbestos debris clean-up interior to a building or structure
- For projects being performed under a NYSDOL regulatory variance that specifies compliance air quality monitoring

Compliance air quality monitoring for asbestos work involves collection of a known volume of air through a filtered cassette and analyzed for fiber concentrations. Sample results are required to be reported within 72 hours from the time of collection unless otherwise specified by a variance. The analytical criteria that is used in evaluating the performance of the contractor during abatement activities and following abatement work for each work area is 0.01 fibers per cubic centimeter of air or the highest background sampling result, whichever is greater. If the results indicate exceedance of this criteria during the abatement work, the contractor is required to cease removal activities and to make the corrections required in either his work practices or engineering controls in order to bring the work back into compliance. If the results indicate exceedance of this criteria during post-abatement sampling, the contractor is required to clean the work area as many times as required in order to meet the criteria. A copy of all clearance sample results are required to be sent to the NYSDOL office closest to the project (addresses of Regional NYSDOL offices are provided at:

http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ASBESTOS.shtm

4.4.19.7.5 Project Monitoring

Asbestos project monitoring has always been and continues to be an independent contractual arrangement by the Department. All asbestos project monitoring services shall be provided through the Asbestos Services Term Agreement contracts. These contracts cover Upstate West (Regions 3, 4, 5 & 6), Upstate East (Regions 1, 2, 7 & 9) and Downstate (Regions 8, 10 & 11). Requests for these services should be directed to Consultant Management Bureau through the Regional Construction Group at least two months prior to the start-up of any asbestos work on the contract. Also, in accordance with Section 210 of the Standard Specifications, the prime contractor shall schedule a coordination meeting between the asbestos subcontractor and the Department-contracted project monitor to be held at least two (2) weeks before the start of any asbestos abatement work.

12 NYCRR Part 56 now requires that, prior to collection of any set of work area final clearance air sampling (on projects that require compliance air sampling) or prior to work area teardown (on contracts that do not require compliance air monitoring), a visual inspection of the work area
be performed by a NYSDOL certified Asbestos Project Monitor. These required visual inspections are currently the only regulatory requirement associated with use of a project monitoring during asbestos abatement work.

Contracting for a project monitor, who can assist Construction project staff with documentation and abatement oversight for the entire duration of asbestos work continues to be an option for the Department. A project monitor is currently the only method of Department-interest abatement supervision in association with contractor submittal reviews, abatement supervision, regulatory compliance, project documentation, etc. Department staff are currently not trained or certified to review asbestos contractor submittals, enter abatement regulated work areas or otherwise direct asbestos abatement operations. 12 NYCRR also now requires that a project record be available onsite during the abatement activities and maintained by the Department. **If a project monitor is not assigned to the contract for all of the abatement activities, the project record is still required to be maintained by the Department on a daily basis.** This daily project record includes the following:

1. Copies of NYSDOL Asbestos Handling Licenses for all asbestos contractors involved in the project (abatement contractor or subcontractor, compliance air monitoring, project monitor)
2. Copies of NYSDOL supervisor and handler certifications from the abatement contractor or subcontractor
3. Copies of all NYSDOL regulatory variances being used on the contract
4. Copies of all compliance air sampling results and air sampling technician sample log (if compliance air sampling is required for asbestos work)
5. Copies of the project monitor daily logs and visual inspection reports
6. Copies of the abatement contractor supervisor daily log with worker entry/exit logs for each work area
7. Copies of all bulk sample data and survey report(s) completed during the assessment for the project

The abatement contractor supervisor logs have historically been provided to project Construction staff as part of the abatement contractor post-submittal package explicitly required in the standard specification, however 12 NYCRR 56 now requires this documentation on a daily basis in addition to the air sampling technician and project monitoring logs. The remainder of the documentation listed above shall be submitted to project construction staff before any abatement work takes place.

4.4.19.7.6 Waste Disposal

The disposal of removed asbestos-containing material must conform to the requirements of 40 CFR Part 61. Under this part, friable asbestos-containing material and asbestos collected in pollution control devices must be disposed of at a waste disposal site operated in accordance with the provisions of 40 CFR 61.156. Non-friable asbestos-containing material may be disposed of at a site approved to accept construction and demolition debris. Non-friable asbestos waste does not require regulatory shipment records so Regions should request disposal receipts in order to verify proper C&D disposal. The handling and disposal of the removed asbestos-containing material is covered by 6 NYCRR Part 360. Under this part friable asbestos waste must be transported by a 6 NYCRR Part 364 permitted hauler and disposed of in an approved solid waste facility. NYSDEC has a listing of approved solid waste facilities for friable asbestos
waste. The list is constantly being updated and it is recommended that the local NYSDEC Regional Office be contacted to obtain a current listing of approved facilities in the project area (current NYSDEC directory provided as Appendix E.). On many projects, friable asbestos waste is transported out of state to less costly approved solid waste facilities. These facilities, if proposed for the project, should also be verified for asbestos disposal approval through similar environmental out-of-state agencies.

4.4.19.7.7 Record keeping

Record keeping is a significant requirement of state and federal regulations in connection with asbestos abatement. Contractors performing asbestos abatement work, including compliance air quality and project monitoring consultants, are required to record their individual activities during the work on a daily basis and maintain those records for at least 30 years following each project. Employee medical monitoring, training and certification records are also required to be maintained by asbestos abatement contractors.

Specific activities associated with the actual abatement work that are required to be recorded by the removal company on a daily basis include work hours, worker entry/exit documentation, engineering control (i.e., isolation barriers, ventilation, decontamination, etc.) maintenance & performance integrity, waste generation, and work area security. Visual inspections by the onsite supervisor during work area preparation, removal, cleaning and clearance are additionally required to be recorded on a daily basis. These daily records are also required to document modifications to either the work area or work practices implemented as a result of engineering control failure and/or compliance air quality monitoring criteria exceedance(s).

Specific activities associated with the compliance air quality monitoring that are required to be recorded by the sampling company on a daily basis include phase of work the project is currently being sampled for, sample duration and sample locations. Previous sample results are also required to be distributed to the removal company and the project monitor on a daily basis. Sample turn-around is required in 12 NYCRR 56 to be a maximum of 72 hours and variances may require shorter periods of time.

Specific activities associated with the project monitoring that are required to be recorded by the project monitoring company on a daily basis include the same activities that are listed for the removal company in addition to the required work area clearance inspections.

Following the completion of the abatement work, copies of all documentation along with original sample results and waste shipment records should be submitted to the Department for project record. This documentation should be kept by each Region. Without this documentation on record the Department has no written verification of what work took place, who performed the work, or what waste was generated and land-filled. In addition, copies of all asbestos bridge abatement reports must be maintained in each Region. Asbestos bridge abatement reports are particularly important because they provide documented reference information that will be used in association with future rehabilitation or reconstruction work. These reports or report summaries should be generated by the project monitor for Regional staff. Copies of the bridge reports or report summaries should be maintained in the Regional BIN folders/files until such time that the bridge(s) are totally replaced. An example of an asbestos information sheet that can be used to summarize the information for the BIN folders/files is provided as Appendix H.
4.4.19.8 OPERATIONS GUIDANCE

4.4.19.8.1 Maintenance Facilities

The Department occupies a number of older residencies, sub-residencies and associated equipment management facilities in association with operations and maintenance work performed Statewide. Typical suspect asbestos-containing materials in these facilities include roofing materials, thermal insulation on boilers and water/heating pipes, transite panels above garage doors, floor tile/linoleum, ceiling tile, plaster, etc. Under the OSHA General Industry Standard - 29 CFR 1910.1001 (access available in Appendix A.), public buildings are required to minimally have a visual inspection of suspect asbestos-containing materials. As part of this inspection all suspect materials are presumed to be asbestos-containing, located either by functional space written description or drawing and assessed in terms of condition. This information shall be retained in each respective facility and updated as suspect materials are tested prior to renovation work or abated as part of demolition or renovation work.

Any necessary sampling of suspect materials shall be performed by in-house certified staff or appropriately licensed consultant forces. Project design work associated with any necessary abatement work shall also be performed by appropriately certified Department or consultant staff. All abatement work must be performed by a NYSDOL licensed asbestos contractor. Again, any testing results or abatement documentation generated as part of ongoing renovation or demolition work shall be retained at each facility along with the initial visual assessments. Department occupants of these facilities should be initially familiarized and periodically updated as the visual assessments are performed and materials are tested and removed. In addition, any outside contractors that enter Department facilities to perform necessary maintenance work (i.e. structural, electrical, plumbing, etc.) should be informed, up front, of any suspected or confirmed materials in the vicinity of their work. Any confirmed asbestos-containing materials that will be disturbed as a result of either occupant or vendor contracted work in the facilities must be removed by a NYSDOL licensed contractor prior to any disturbance by non-certified staff.

It is also important for facility managers to retain and maintain records of all replacement materials used in association with renovation work and to specify that replacement materials be free of asbestos (i.e., roofing, flooring, etc.). These records should be maintained with the abatement documentation as a reference for future renovations.

Additional site-specific technical assistance associated with asbestos and Department occupied maintenance facilities can be provided by the Maintenance Environmental Coordinator (MEC) and/or the Employee Safety and Health Representative for each Region.

4.4.19.8.2 Bridge/Highway Maintenance Work

Department maintenance work can include disturbance of the same suspect asbestos-containing materials identified in 4.4.19.5.2 (pages 10, 11 and 12) for affected bridges and roadways. Again, typical suspect materials include utility conduits carried under and within bridge sidewalks/decks, within bridge approaches and buried in highway ROW. In addition, joint
fillers, caulks, bond breakers and limited coating applications on both steel and masonry bridge components can be positive for asbestos.

Many Operations Division maintenance activities automatically have no potential for disturbing suspect asbestos materials. Examples of these activities include vegetation management, clearing and grubbing, pavement striping, snow and ice control, asphalt patching, asphalt crack sealing, paving, bridge washing, etc. Other activities and/or projects that have the potential to disturb suspect materials should be further screened and assessed based on the scope of work. Any work with confirmed materials that will be disturbed as part of the work require specifications signed off by a NYSDOL certified project designer and abatement by a NYSDOL licensed asbestos handling contractor.

**Maintenance Work by Department Forces** - Typical work performed by Department maintenance forces that could involve potential asbestos disturbance includes bridge bearing work that may disturb bearing pads, concrete work that may disturb other bridge bond breaker material (i.e., slipsheet, etc.), bridge deck and curb work that may disturb caulking, and bridge wingwall or backwall work that may disturb joint filler material. Asbestos coating disturbance associated with steel and concrete repairs may also be encountered on a limited basis. Suspect utility work (water, sewer, electric, telephone, gas) is typically not included in maintenance work performed by Department forces.

Regional Landscape and Environmental Units (RLEU) have been involved in coordinating Department asbestos consultants and maintaining assessment and abatement documentation associated with capital program bridge work. In some Regions, assessment and abatement documentation may be located in Design and/or Structures. **Prior to performing work that may disturb any of the above referenced materials**, MECs shall work with RLEUs in reviewing existing assessment reports and abatement documentation to determine if additional sampling is necessary. Any additional necessary testing shall be performed by appropriately certified in-house or consultant personnel and results transferred back to the RLEU. Materials confirmed positive by either previous testing and are still present or by new testing will require certified abatement design documentation (see standard specification section 210, Appendix C.) and a licensed asbestos abatement handler in order to perform the work. Alternatives could include a work scope revision so that any confirmed materials are not disturbed as part of the work or a delay of the work that disturbs the asbestos until it can be included as part of a larger planned maintenance or construction project on the bridge.

**Response Contracts (Job Order, Work Order, Where & When, Emergency)** - These contracts can cover a variety of needs associated with bridge and highway maintenance work, and unlike the MBCs, scopes of work can include multiple disciplines and bridge or ROW locations are not typically known far in advance. Due to the work locations being typically uncertain, the screening, assessment and project design work is typically performed as a responsibility of the prime contract award. The prime contractor, who typically is not licensed or certified to perform asbestos assessment and project design work, would subcontract these responsibilities to an appropriately accredited firm. All necessary screening, assessment and design work would then be performed for each bridge or ROW location, as necessary, at a time with the least impact to the maintenance work.
4.4.19.9 PROCESS FLOW CHART

The asbestos process flow chart is available at the following link:


4.4.19.10 LOCAL PROJECT GUIDANCE

Project analysis, design and abatement guidance for local projects is the same as that provided in sections 4.4.19.5 and 4.4.19.7, except for projects located within New York City outside of State ROW. New York City local projects additionally have to comply with the NYCDEP Asbestos Control Program Regulation (Title 15, Chapter 1 or 15 RCNY 1-01). A summary of this regulation is provided in section 4.4.19.4.1 and the entire regulation is available in Appendix A. Projects that have to comply with Title 15, Chapter 1 will require additional project notifications and fees to NYCDEP. Licenses and staff certifications for consultants and abatement contractors will also need to be current with NYCDEP. The main website for NYCDEP can be found at:


As previously described in section 4.4.19.6.1, NYSDOT maintains a statewide asbestos blanket variance that includes regulatory relief and NYSDOL approved procedures for conducting non-friable asbestos abatement associated with bridge and highway work. This variance includes projects administered by Counties, however it does not include projects administered by Villages, Townships or Cities. Village, Town and City projects need to be able to comply with 6NYCRR 56 as written or site specific regulatory relief needs to be obtained from NYSDOL. Additional guidance on site specific variances is provided in section 4.4.19.7.3.

Additional Department guidance associated with asbestos abatement work and local projects can be found at:


4.4.19.11 APPENDICES

A. Legal Citation (Regulations)

Available at the following links:
2.) OSHA Construction Standard (29 CFR 1926.1101)
4.) New York State Industrial Code Rule 56 (12 NYCRR 56)
http://www.labor.state.ny.us/workerprotection/safetyhealth/PDFs/Asbestos/Code%20Rule%2056-final-version-corrected.pdf
5.) New York City Asbestos Control Program Regulations (15 RCNY 1-01)

B. Scope of Services
Available at the following link:
https://www.dot.ny.gov/divisions/engineering/design/consultant-management/base-scope

C. Section 210 Standard Specification
Available at the following link: https://www.dot.ny.gov/main/business-center/engineering/specifications/english-spec-repository/section200.pdf

D. Applicable Regulatory Variances
Available at the following link:
http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_CODE_RULE_56_TRANSITION.shtm

E. Contacts (NYSDOT, NYSDEC and NYSDOL)
NYSDOT: Jonathan Bass, Main Office (518) 485-5315
NYSDEC: http://www.dec.ny.gov/about/558.html
NYSDOL: http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ASBESTOS.shtm

F. Sample Statements

G. NYSDOT Blanket Variance 14
Available at the following link:

H. BIN Folder Information Sheet
Available at the following link:
I. **NYSDOL Asbestos Asphalt Response**
   Available at the following link:

J. **Asbestos Abatement Checklist**
   Available at the following link:

K. **Contractor Supervisor/Project Monitor Completion Certification**
   Available at the following link: