



State of Rhode Island
Department of Administration / Division of Purchases
One Capitol Hill, Providence, Rhode Island 02908-5855
Tel: (401) 574-8100 Fax: (401) 574-8387

ADDENDUM #3

RFQ #7457918

TITLE: DEMOLITION OF STRUCTURES -7055 POST ROAD

OPENING DATE AND TIME: 11/13/12 - 2:00 p.m. (Note Change)

Prospective bidders and all concerned are hereby advised of the attached changes/modifications for the above referenced RFQ and are hereby requested to change their copies accordingly.

- The bid opening date and time have been changed as follows:
FROM: 11/1/12 – 11:00 a.m.
TO: 11/13/12 – 2:00 p.m.
- The SURVEY REPORT for 7055 Post Road is included for your reference in bid preparation.

A handwritten signature in cursive script, appearing to read "Lisa Hill".

**LISA HILL
CHIEF BUYER**

Bidders must include a signed copy of this addendum with their bid submission as acknowledgment.

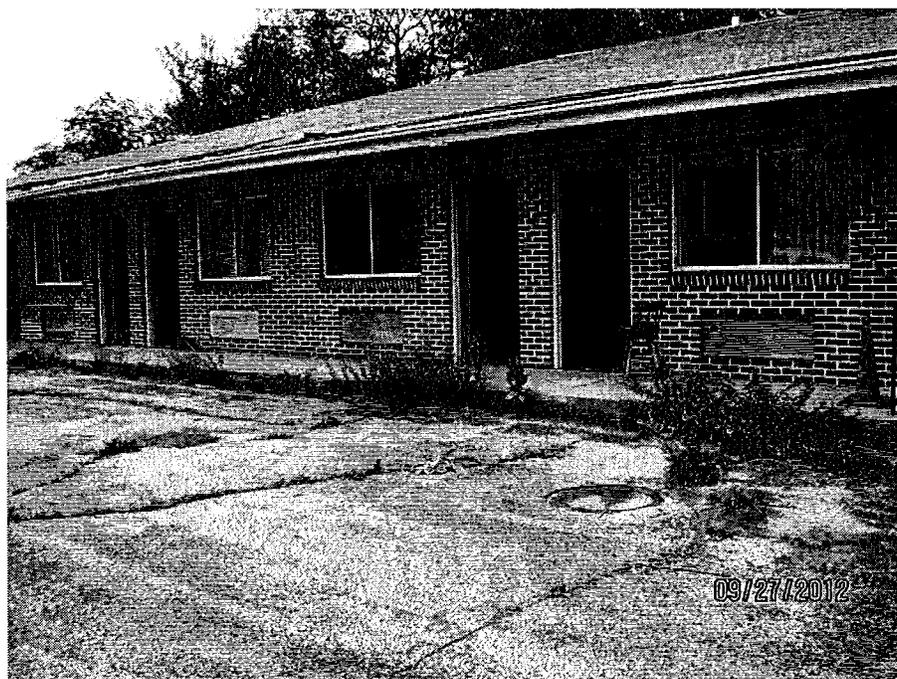
Company Name (Print)

Signature of Authorized Representative

**PRE-DEMOLITION SURVEY
OIL AND HAZARDOUS MATERIALS
ASBESTOS CONTAINING MATERIALS
MANAGEMENT OF HAZARDOUS MATERIAL SPECIFICATIONS**

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION
FORMER ROUTE 403 FIELD OFFICE
SOUTH KINGSTOWN, RHODE ISLAND**

OCTOBER 18, 2012



Prepared for:

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Rhode Island Department of Transportation
HIGHWAY & BRIDGE MAINTENANCE
Office of Property Management
360 Lincoln Avenue
Warwick, RI 02888-3030

Prepared by:

Gordon R. Archibald, Inc.
200 Main Street
Pawtucket, Rhode Island

Oil and Hazardous Material Survey

Gordon R, Archibald, Inc. (GRA) completed a visual inspection of the former Rhode Island Department of Transportation (RIDOT) Route 403 project field office in North Kingstown, Rhode Island to identify oil and hazardous materials. GRA met Bob Jackson of the RIDOT and Ernie Quackenbush of RI Analytical (RIAL) at the site. Mr. Jackson provided building access. Mr. Quackenbush of RIAL completed a suspect asbestos containing material (ACM) survey. The following summary is offered:

Overview

A visual inspection of the exterior was completed by GRA. The brick building is constructed on a concrete foundation and slab. A pitched truss roof system is surfaced with what appear to be asphalt shingles. There is a concrete deck type area on the building's north side with doors providing access to the deck from the building's interior. The former motel rooms each have a glass window and there are larger glass windows in the building's eastern end which was used as a deli prior to RIDOT purchasing the property.

The building's south and east sides are abutted by an asphalt paved parking lot. The areas to the building's north and west are vegetated. There are eleven manhole openings in the asphalt pavement that are believed to have been associated with the building's on-site wastewater treatment system. One of the openings does not have a manhole cover on it.

A gas meter is present at the building's northeast corner. The electric meter has been removed but was formerly located in this area. Several doors provide access to the building's interior. According to Bob Jackson of the RIDOT the public water service has been shutoff at the street gate valve on Post Road, the electric service removed, and the natural gas service shut off at its street gate valve on Post Road. The gas meter is still present at the building's northeast corner.

GRA visually inspected the facility's interior. There are four former motel room units, the former reception desk area, the former Pastrami's Deli, and a kitchen in the building. Each motel room unit had a sitting area, a bathroom, and a bedroom area. The reception desk area had an entrance area with the reception desk, a bathroom, and a bedroom area. The former deli area consists of an open area, two bathrooms, and a kitchen area. There is a full basement at the building's east end below the deli area. The basement is accessed through an outdoor stairway at the building's southeast corner.

Oil and Hazardous Material Inspection

Oil and hazardous materials observed in the building would be characterized as hazardous and special wastes when removed during the demolition work. A hazardous and special waste spreadsheet summary that identifies materials observed during the visual site inspection is attached.

Asbestos Containing Material Survey

RIAL completed a suspect asbestos containing material (ACM) survey. The suspect ACM sample analysis summary is provided on the table appended to this report. RIAL's survey report is also appended to this document.

RIAL identified ACM in the roof penetrations and one section of loose transite pipe in the basement. The ACM quantity was below the threshold that would require a Rhode Island Department of Health (RIDOH) approved asbestos abatement plan.

RIAL concluded the following:

The asbestos containing materials identified in its survey must be removed prior to the demolition of the structure. Asbestos abatement can only be performed by a RI licensed asbestos abatement contractor. An asbestos abatement plan will not be required for the removal of materials identified in this report.

OIL AND HAZARDOUS MATERIAL SURVEY

**PRE-DEMOLITION SURVEY
ROUTE 403 FORMER FIELD OFFICE
NORTH KINGSTOWN, RHODE ISLAND**

OIL AND HAZARDOUS MATERIALS		
Item Number	Observations	Regulated Material
1	MasterKure 200W - (7) 5 gallon containers	Construction chemical
2	Harris Certi-Vex AC1315 (2) 5-gallon containers	Construction chemical
3	Laticrete - (1) 5-gallon container	Construction chemical
4	Harris Emulsion KonKure	Construction chemical
5	Rugasol S Spray Type Surface Mortar Retardant - (1) 5-gallon container	Construction chemical
6	CreteShield - (3) 5-gallon containers	Construction chemical
7	MasterFill 300T - (2) 5-gallon containers	Construction chemical
8	Reed Shield Sealer - (1) 5-gallon container	Construction chemical
9	Reed Shield Wax - (1) 5-gallon container	Construction chemical
10	Paint - (5) 1-gallon containers	Construction chemical
11	Toluene - (2) 5-gallon containers	Construction chemical
12	Sikadur Products - (13) 2-gallon containers	Construction chemical
13	Concord Pipe Lubricant - (1) 2.5-lb container	Construction chemical
14	Concord Pipe Lubricant - (3) 8-lb containers	Construction chemical
15	Concord Pipe Lubricant - (2) 1-qt containers	Construction chemical
16	Prescott Plug - (1) 5-gallon container	Construction chemical
17	Grace Eclipse Floor Admixture - (1) 5-gallon	Construction chemical
18	Confilm - (1) 5-gallon container	Construction chemical
19	Carpet pad adhesive - (1) 1-gal container	Construction chemical

**PRE-DEMOLITION SURVEY
ROUTE 403 FORMER FIELD OFFICE
NORTH KINGSTOWN, RHODE ISLAND**

Universal Waste		
Item	Observations	Quantity
1	8-foot fluorescent lights	23
2	4-foot fluorescent lights	4

**PRE-DEMOLITION SURVEY
ROUTE 403 FORMER FIELD OFFICE
NORTH KINGSTOWN, RHODE ISLAND**

Miscellaneous Materials		
Item Number	Item	Quantity
1	Fire Extinguishers	2
2	Refrigerator	1
3	Televisions	2
4	AC/Heat Units	8
5	Tire	1
6	Concrete Mix - 50 lb bags	8
7	Plaster Mix - 50 lb bag	1
8	Double-door freezer unit	1
9	Commercial Grade Stove	1

ASBESTOS CONTAINING MATERIAL SURVEY

Route 403 Field Office Asbestos Sample Results

Sample #	Material	Location	Asbestos %	Quantity
001-010	Sheetrock & Joint Compound	Throughout	Negative	--
011-015	Textured Ceiling	Throughout	Negative	--
016-018	Cement Material	Behind Showers	Negative	--
019-021	Mortar Behind Ceramic	Bathrooms and Kitchen	Negative	--
022	Window Caulk	Exterior; Lobby	Negative	--
023	Transite Pipe	Basement	5-15% Chrysotile 5-15% Crocidolite	3 lf
024	Vent Caulk	Exterior: Inside Vents	Negative	--
025	Black Waterproofing	On Perimeter CMU Wall	Negative	--
026	Lexonite	Roof Penetrations	5-15% Chrysotile	4 Penetrations approx. 11 lf total
027-029	Asphalt Shingles	Roof	Negative	---
030	Stick Tab	On Asphalt Shingles	Negative	---
031	Tarpaper	Under Asphalt Shingles	Negative	--



R.I. ANALYTICAL
Specialists in Environmental Services

October 9, 2012

GRA, Inc.
Attn: Mr. Steven Cadorette
200 Main Street
Pawtucket, RI 02860

Re: Asbestos Survey - 7055 Post Road, North Kingstown, RI

Dear Mr. Steven Cadorette:

Enclosed are the analytical results of asbestos bulk samples collected from 7055 Post Road located in North Kingstown, RI. Samples were collected September 27, 2012 in an effort to identify asbestos containing material that would need to be removed from the site prior to the pending demolition project. All samples were analyzed for asbestos content utilizing Polarized Light Microscopy. The chart below indicates sampled materials and their respective testing results. Refer to Appendix A for the laboratory report.

Asbestos Sample Chart

Sample #	Material	Location	Asbestos %	Quantity
001-010	Sheetrock & Joint Compound	Throughout	Negative	--
011-015	Textured Ceiling	Throughout	Negative	--
016-018	Cement Material	Behind Showers	Negative	--
019-021	Mortar Behind Ceramic	Bathrooms & Kitchen	Negative	--
022	Window Caulk	Exterior: Lobby	Negative	--
023	Transite Pipe	Basement	5-15% Chrysotile 5-15% Crocidolite	3 lf
024	Vent Caulk	Exterior: Inside Vents	Negative	--
025	Black Waterproofing	On Perimeter CMU Wall	Negative	--
026	Lexonite	Roof Penetrations	5-15% Chrysotile	4 Penetrations ~ 11 lf Total
027-029	Asphalt Shingles	Roof	Negative	--
030	Stick Tab	On Asphalt Shingles	Negative	--
031	Tarpaper	Under Asphalt Shingles	Negative	--

Clarifications:

Transite Pipe:

The transite pipe is located in the northwest corner of the basement. The pipe is not attached to any mechanical systems or building components.

Lexonite:

RI Analytical observed four roof top penetrations that have a thin bead of asbestos containing lexonite. A diagram has been included at the end of this report for clarification purposes.

Conclusions:

The asbestos containing materials identified in this report must be removed prior to the demolition of the structure. Asbestos removal can only be performed by an RI licensed asbestos abatement contractor. An asbestos abatement plan will not be required for the removal of the materials identified in this report.

Limitations:

RI Analytical cannot be held responsible for the identification of hidden or concealed materials.

This evaluation does not document compliance by present or past site owners with federal, state, or local laws and regulations, nor does it claim or imply that all asbestos containing materials past, present, potential, or otherwise, have been detected at the referenced site.

All observations documented in this report were made under the conditions existing at the time of this investigation. Should changes from existing conditions occur in the future, warranting additional analysis, they should be brought to the attention of RI Analytical for further investigation and documentation.

This report was prepared under the request of GRA, Inc. We further confirm that GRA, Inc., its affiliates and subsidiaries and their successors, assigns and grantees may rely on the report within the limitations and recommendations contained within the report, as if it were prepared for the benefit of and addressed to them.

This report should not be represented, reproduced, or disseminated without the written approval of RI Analytical or GRA, Inc. No warranties other than those expressed in the contract for this project are expressed or implied.

If I may be of any further assistance please contact me at (401) 737-8500 ext 139.

Sincerely,
RI Analytical Laboratories, Inc.



Ernest L. Quackenbush
LIC # AAC-7751S

Appendix A:
Laboratory Report



CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
Attn: Mr. Ernie Quackenbush
41 Illinois Avenue
Warwick, RI 02888

Date Received: 9/27/2012
Date Reported: 10/5/2012
Work Order #: 1209-20253

Site Location: PROJECT #120569 GRA, 7055 POST ROAD

Enclosed please find your sample(s) analysis results for asbestos content. The six asbestos types include amosite, chrysotile, crocidolite, anthophyllite, tremolite, and actinolite.

METHODOLOGY: Polarized Light Microscopy (PLM) as suggested by EPA/600/R-93/116, July 1993 edition.

If the samples are found to be inhomogeneous, individual components will be analyzed separately. If individual components cannot be separated, the samples will be homogenized and a single result will be provided for the entire sample.

Sample results pertain only to items tested. The report must not be reproduced except in full with permission of R.I. Analytical. Samples submitted for analysis will be retained for three months for your future reference.

Our laboratory maintains NVLAP accreditation for bulk asbestos fiber analysis NVLAP lab code 101440-0.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government.

If you have any questions regarding this report, or if we may be of further assistance, please contact us.

Approved by:

Data Reporting

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
001	001A: JOINT COMPOUND	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
002	001B: JOINT COMPOUND	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
003	001C: JOINT COMPOUND	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
004	001D: JOINT COMPOUND	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
005	001E: JOINT COMPOUND	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
006	002A: SHEETROCK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	1-5 %	10/4/2012	EVH
		Non-fibrous	95-99 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
007	002B: SHEETROCK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Cellulose	1-5 %	10/4/2012	EVH
		Non-fibrous	95-99 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
008	002C: SHEETROCK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Cellulose	1-5 %	10/4/2012	EVH
		Non-fibrous	95-99 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
009	002D: SHEETROCK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	1-5 %	10/4/2012	EVH
		Non-fibrous	95-99 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
010	002E: SHEETROCK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Cellulose	1-5 %	10/4/2012	EVH
		Non-fibrous	95-99 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
011	003A: TEXTURED CEILING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
012	003B: TEXTURED CEILING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
013	003C: TEXTURED CEILING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
014	003D: TEXTURED CEILING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
015	003E: TEXTURED CEILING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	White	10/4/2012	EVH
016	004A: CEMENT BEHIND SHOWER	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
017	004B: CEMENT BEHIND SHOWER	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
018	004C: CEMENT BEHIND SHOWER	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
019	005: MORTAR BEHIND CERAMIC	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Beige	10/4/2012	EVH
020	006: MORTAR BEHIND CERAMIC	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
021	007: MORTAR BEHIND CERAMIC	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Beige	10/4/2012	EVH
022	008: WINDOW CAULK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH
023	009: TRANSITE PIPE	PLM Fiber Analysis			
		Asbestos	POSITIVE	10/4/2012	EVH
		Chrysotile	5-15 %	10/4/2012	EVH
		Crocidolite	5-15 %	10/4/2012	EVH
		Non-fibrous	70-90 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
024	010: VENT CAULK	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Gray	10/4/2012	EVH
025	011: BLACK WATERPROOFING	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH
026	012: LEXONITE	PLM Fiber Analysis			
		Asbestos	POSITIVE	10/4/2012	EVH
		Chrysotile	5-15 %	10/4/2012	EVH
		Non-fibrous	85-95 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH
027	013A: ASPHALT SHINGLE	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	5-15 %	10/4/2012	EVH
		Non-fibrous	85-95 %	10/4/2012	EVH
028	013B: ASPHALT SHINGLE	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	5-15 %	10/4/2012	EVH
		Non-fibrous	85-95 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH

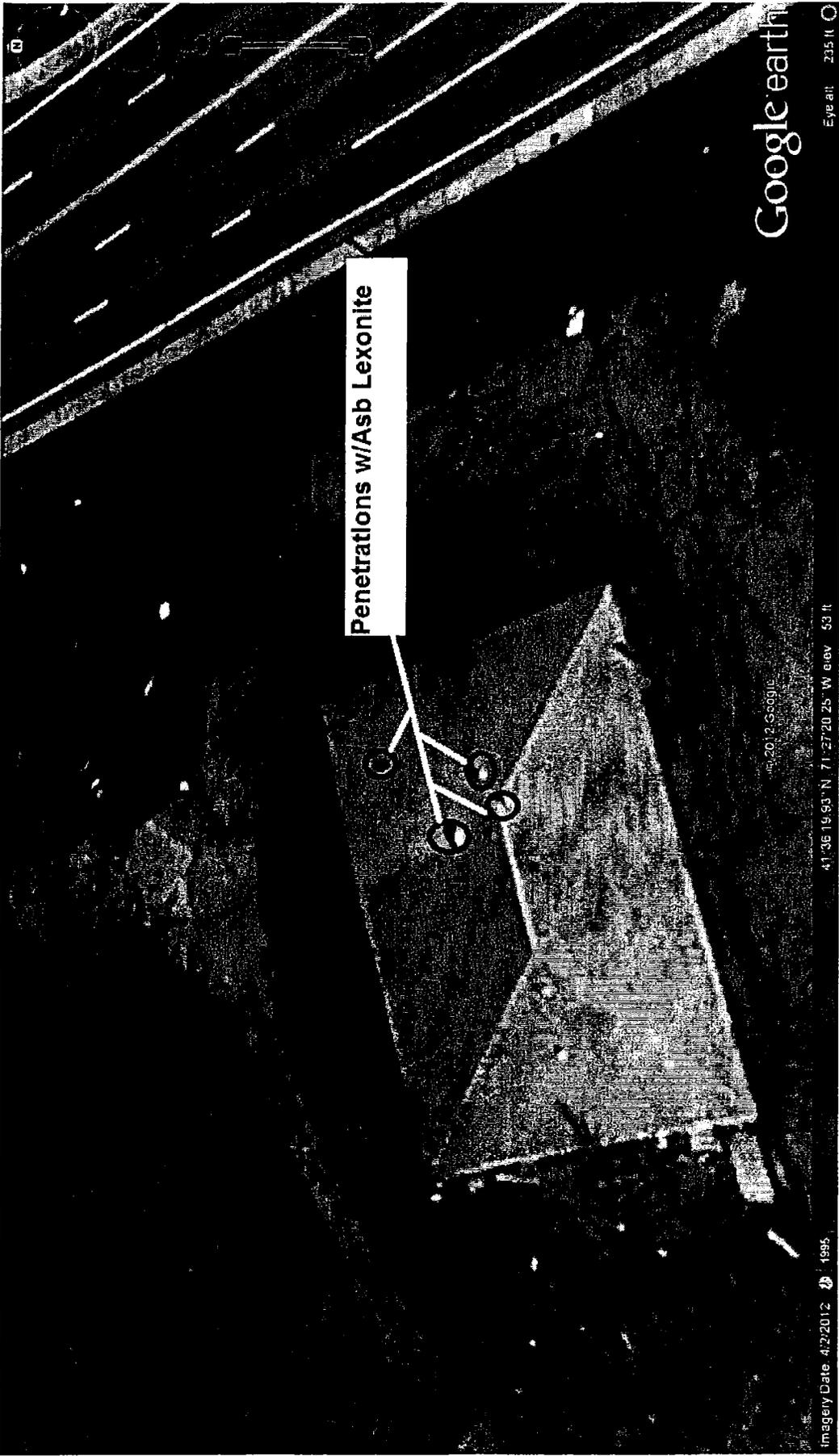
R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

R.I. Analytical (EAM Division)
 Date Received: 9/27/2012
 Work Order #: 1209-20253
 Site Location: PROJECT #120569 GRA, 7055 POST ROAD

METHOD: EPA/600/R-93-116

SAMPLE NO.	SAMPLE DESCRIPTION	PARAMETER	SAMPLE RESULTS / UNITS	DATE ANALYZED	ANALYST
029	013C: ASPHALT SHINGLE	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	5-15 %	10/4/2012	EVH
		Non-fibrous	85-95 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH
030	014: STICKY-TAB	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Glass Fiber	5-15 %	10/4/2012	EVH
		Non-fibrous	85-95 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH
031	015: TARPAPER	PLM Fiber Analysis			
		Asbestos	NEGATIVE	10/4/2012	EVH
		Non-fibrous	100 %	10/4/2012	EVH
		Sample Color	Black	10/4/2012	EVH

Project #120569
 GRA
 7055 Post Road



Penetrations w/Asb Lexonite

Google earth

Eye alt: 235 ft

© 2012 Google

41°36'19.93" N, 71°27'20.25" W elev: 53 ft

Imagery Date: 4/2/2012 1995

MANAGEMENT OF HAZARDOUS MATERIAL SPECIFICATIONS

ABANDONMENT OF ON-SITE WASTEWATER TREATMENT SYSTEM

DESCRIPTION: This work shall consist of abandoning the on-site wastewater treatment system.

MATERIALS: Materials used to abandon the on-site wastewater treatment system shall comply with the Rhode Island Department of Environmental Management *Rules Establishing Minimum Standards Relating to Location, Design, Construction, and Maintenance of On-Site Wastewater Treatment Systems (OWTS)* most recent revision.

CONSTRUCTION METHODS: All work shall be in strict accordance with Rule 52 of the Rhode Island Department of Environmental Management *Rules Establishing Minimum Standards Relating to Location, Design, Construction, and Maintenance of On-Site Wastewater Treatment Systems (OWTS)* most recent revision.

DISPOSAL OF SOLID WASTE

DESCRIPTION: The work under this specification includes all labor, tools, materials and equipment necessary to completely dispose of all solid waste materials on the property to be demolished, clean-up of the areas where debris was stored on the exterior of buildings and proper disposal of solid waste debris. This item of work does NOT include- materials covered separately under Management of Miscellaneous Hazardous and Special Wastes, or Asbestos Abatement.

APPLICABLE LAWS AND REGULATIONS: The Contractor shall ensure that State and Local roadways, sidewalks, or other means of egress; hydrants, fire lanes, or access to emergency utilities be kept open and unobstructed at all times, unless a permit has been granted by the local fire department.

The Contractor shall ensure that all debris removal shall be conducted according to the State of Rhode Island Building Code, and OSHA standard **29 CFR 1926** "Safety and Health Regulations for Construction."

The Contractor shall ensure that the solid waste shall be disposed of in accordance with the applicable USEPA regulations (40 CFR 239-259) and RIDEM Solid Waste Regulations (DEM OWM-SW-04-01) as amended.

The Contractor shall obtain all required hauling permits and is responsible for the payment of necessary tipping and other fees required.

The Contractor shall immediately notify the Engineer if actual or suspected oil, hazardous material, and/or hazardous waste (OHM), other than that already identified under the contract, are encountered during debris removal. All OHM must be handled according to state and federal regulations and these Special Provisions.

MANAGEMENT OF MISCELLANEOUS HAZARDOUS AND UNIVERSAL WASTES

DESCRIPTION: Work under this Section shall include the consolidation, packaging, removal, transportation, and proper recycling/disposal of miscellaneous hazardous and universal wastes including but not necessarily limited to, refrigerator compressors, air conditioners, boilers, oil burner, or other motors, batteries or electrolyte, transformers, paint cans, miscellaneous solvents, aboveground storage tanks; proper recycling of all PCB-containing light ballasts and all mercury-containing fluorescent bulbs or thermostats. A list of hazardous and special wastes can be found in Appendix A of these Specifications. Receiving facilities may require laboratory analysis and such analysis shall be performed at no additional cost to the State. All work is to be performed in compliance with applicable Federal, State, and Local regulations.

APPLICABLE LAWS AND REGULATIONS: The following documents are made applicable and a part of the work of this Section:

1. Code of Federal Regulations (CFR) Publications:

OSHA

29 CFR 1910- Occupational Safety and Health Standards

29 CFR Part 1926 – Safety and Health Regulations for Construction

40 CFR 61 – National Emission Standards for Hazardous Air Pollutants

49 CFR Subtitle B, Parts 100-185 – Other Regulations Relating to Transportation

40 CFR 260 – Hazardous Waste Management System: General

40 CFR 261- Identification and Listing of Hazardous Waste

40 CFR 262 - Standards Applicable to Generators of Hazardous Waste

40 CFR 273 – Standards for Universal Waste Management

40 CFR Part 761 -Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce and Use Prohibitions

RIDOT

2. American National Standards Institute (ANSI) Publications:

z88.2-1992 Practices for Respiratory Protection

3. National Institute of Occupational Safety and Health (NIOSH) Publications:

Manual of Analytical Methods: 2nd Ed., Vol. 1, Physical and Chemical Analysis Method (P&CAM):

Underwriters Laboratories, Inc. (UL) Publication:

UL 586 – August 2009 – Standard for High Efficiency Particulate Air Filter Units.

Rhode Island Department of Environmental Management

1. State of Rhode Island and Providence Plantations Department of Environmental Management Hazardous Materials Rules and Regulations for Hazardous Waste Management, Regulation #DEM OWM –HW 10-01 most recent revision.

WORKER PROTECTION. The sequence of work requires that the identified hazardous and special waste materials be removed prior to asbestos abatement and building demolition.

- A. Personal protective equipment (PPE) for all persons entering the building shall include the following:

Disposable coveralls with head and boot covers.

Hard hats

Boots with steel toe and shank

Eye protection

Nitrile gloves

- B. Contractor shall supply each worker with a minimum of two (2) complete disposable, full-body coveralls every day. Removal workers shall not be limited to two (2) full-body coveralls, and Contractor will be required to supply additional full-body coveralls as is necessary. Under no circumstances will anyone entering the removal area be allowed to reuse contaminated full-body coveralls. In addition to full-body coveralls for the workers, Contractor shall also supply full-body coveralls for the Engineer's Representatives and other personnel who are authorized to inspect the Site.

SUBMITTALS

- A. Contractor shall have all federal, state, and local permits for handling and transporting hazardous wastes.
- B. Prior to the commencement of any on-site activities, the Contractor shall submit to RIDOT a list of proposed receiving facilities, along with copies of each facility's license and permit. RIDOT approval of the proposed receiving facilities shall be required prior to any hazardous waste disposal.
- C. Contractor shall comply with the requirements of a Commercial Storer, Transporter, or Generator of PCB Wastes in accordance with **40 CFR Part 761.65**.

- D. Contractor and Transporter shall have and implement a Spill Prevention Control and Countermeasure (SPCC) Plan in accordance with **40 CFR Part 761.65(c)(7)(ii)**.
- E. Contractor shall provide a Worker Safety and Training Program.

CONTAINERS

- A. Contractor shall supply **US DOT-approved** shipping containers for all required lab packs and consolidation. All required packing materials shall also be included for the lab packs.
- B. Contractor shall supply **US DOT-approved** over-pack drums, as needed and required by applicable regulations.
- C. Contractor shall supply **US DOT-approved** drum lids with rings and bolts, as needed and required by applicable regulations.

PROTECTION.

Contractor shall secure the Site at the end of each workday.

Protect adjacent property and facilities from damage.

MANAGEMENT OF EMPTY DRUMS.

All empty drums shall be transported and recycled/disposed of in accordance with the requirements of the receiving facility.

Empty drums shall be properly cleaned (if required) and transported off-site. If drums are not cleaned on-site, each individual drum shall be placed in a polyethylene bag, sealed with tape, and appropriately labeled as **EMPTY**.

LAB PACK REQUIREMENTS:

- A. Contractor shall, at a minimum, provide lab pack materials as necessary to meet DOT transportation requirements.

PCB BALLASTS AND FLUORESCENT BULBS:

- A. Contractor shall clean fixtures of dust, dirt, and debris prior to removal of the ballasts and bulbs.
- B. Contractor shall inspect all light ballasts for leaks prior to dismantling and removal from the light fixtures. In the event that leaking light ballasts are detected, the ballasts should be thoroughly cleaned pursuant to 40 CFR Part 761 Subpart and immediately placed in

double-lined, 55-gallon disposal drums packed with absorbent materials. All cleaning utensils shall also be placed within the lined drums for disposal as hazardous waste.

- C. Contractor shall take care in placing the ballasts into disposal drums so as not to cause ballasts to leak.
- D. All non-leaking ballasts shall be drummed and recycled.
- E. Mercury-containing fluorescent bulbs are to be separately boxed, transported and recycled at an appropriately licensed facility. Care shall be taken as not to break the bulbs.

RECYCLING/DISPOSAL REQUIREMENTS FOR LIGHT BALLASTS AND LAMPS/TUBES:

- A. All ballasts shall be carefully removed and placed within 55-gallon drums for disposal by recycling.
- B. Leaking ballasts shall be packaged separately for disposal as Hazardous Waste.
- C. Only light ballasts shall be placed within the drums: No other wastes shall be commingled with light ballasts.
- D. The drums of leaking ballasts shall be appropriately labeled hazardous waste as well as the type of waste (PCBs), and including proper USDOT shipping name and description, generator's EPA ID number, name, address, and telephone number of the generator and date on which the drum was filled.
- E. All hazardous waste shall be transported to a licensed Hazardous Waste facility. Contractor shall supply a Uniform Hazardous Waste Manifest (EPA Form 8700-22) or alternate, which contains substantially similar information to be signed by the generator, Contractor, and receiving facility.
- F. Following dismantling of the ballasts at an approved recycling facility, the PCB capacitors shall be disposed of by incinerator. **No PCB materials shall be landfilled.**
- G. Leaking ballasts shall be incinerated in accordance with **EPA 40 CFR, Part 761.70** and non-leaking ballasts components shall be recycled. If the ballasts are recycled, the remaining materials shall be tested. If uncontaminated (<50 ppm), metals shall be reclaimed in smelters or foundries, recycled, reconditioned, or disposed. All other metals shall be incinerated. Contractor shall provide a Certificate of Reclamation/Destruction for the incineration of the PCB-containing materials.
- H. All bulbs shall be carefully removed from the existing light fixtures. Proper care shall be taken to avoid breaking the bulbs. The bulbs shall be placed within labeled boxes. The boxes shall be labeled "Mercury-Containing Bulbs" on the exterior. All bulbs shall be

taken to a recycling facility or disposed as a hazardous waste according to the Rhode Island Universal Waste Rule. All signed transportation paperwork, such as manifests and receipts shall be returned to the Department.

- I. All bulbs recycled shall meet the following minimum recycling requirements:
 - 1. A minimum of 99% of the mercury content of the bulbs must be recovered for reuse.
 - 2. Aluminum end caps, crushed glass and phosphor powder must be recovered for reuse.
 - 3. Aluminum end caps, crushed glass and phosphor powder must be routinely tested by the recycling facility to ensure that TCLP mercury concentrations are less than 0.2 mg/l.

TRANSPORTATION OF WASTES:

- A. All vehicles used for the transportation of hazardous and special waste shall be properly placarded according to USDOT transporting requirements.
- B. All drums and containers leaving the property shall be appropriately labeled as hazardous waste (when applicable), as well as the quantity and type of waste, USDOT description, emergency phone numbers, name, address, and telephone number of the generator and date on which the drum was filled. All waste shall be transported to a licensed hazardous waste recycling/disposal facility.
- C. Contractor shall supply a Uniform Hazardous Waste Manifest (EPA Form 8700-22) or alternate which contains substantially similar information to be signed by the generator, Contractor, transporter, and receiving facility.
- D. Contractor shall provide all Certificates of Reclamation/Destruction for all materials that are transported off the site.

SPILL RESPONSE

- A. In the event of a spill, the Contractor shall:

Immediately notify RIDOT and the Engineer;

RIDOT shall contact the National Response Center at 800-424-8802; the Rhode Island Department of Environmental Management at 401-222-1360; and the local fire department;

Appropriately contain and manage the spill in accordance with all applicable laws and regulations;

Comply with all State, Federal, and Local regulation notification requirements.

ASBESTOS ABATEMENT

DESCRIPTION:

- A. In addition to the requirements specified herein, refer to the RI Analytical Asbestos Survey dated October 9, 2012 for the identification of asbestos containing materials identified at the Former Route 403 Field Office site.

- B. The asbestos containing materials identified in its survey must be removed prior to the demolition of the structure. Asbestos abatement can only be performed by a RI licensed asbestos abatement contractor. An asbestos abatement plan will not be required for the removal of materials identified in this report.

- C. All provisions of this Specification relating to health and safety of workers, the public, and protection of the environment are minimum standards and are solely the responsibility of Contractor. Contractor shall be responsible for determining whether any additional and/or more stringent protective measures are required by any federal or state regulations, ordinances or guidelines. Failure on behalf of Contractor to comply with all applicable requirements does not relieve Contractor from any liability and/or requirements for performance of the work.

WORK INCLUDED:

The scope of work involves the removal, transportation, and disposal of asbestos-containing materials (ACM) identified in RI Analytical Asbestos Survey dated October 9, 2012 for the identification of asbestos containing materials identified at the Former Route 403 Field Office site.

DEFINITIONS/REGULATORY AGENCIES:

- A. The following definitions are hereby made part of this Specification:

Amended Water: Water to which a surfactant has been added.

Area Monitoring: Sampling of total airborne fiber concentrations outside a negative pressure enclosure or within a glove bag removal work area.

Asbestos: A unique group of naturally occurring minerals that separate into fibers of high tensile strength, resistant to heat, wear, and chemicals, described as the following types: chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, and every product containing any of these minerals that have been chemically treated and/or altered which, after manufacture, are

used for these products and end uses as insulation, textiles, paper, cement sheets, floor tile, wall covering, decorations, coating, sealants, cement pipe, and reinforced plastics and other compounds.

Asbestos Containing Material (ACM): Any material or product which contains more than one percent (1%) asbestos, as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1 Polarized Light Microscopy (PLM). If the asbestos content of friable material is less than 10% as determined by a method other than point counting by PLM, the asbestos content but be verified by point counting using PLM.

Asbestos Abatement: Any activity involving the removal, encapsulation, enclosure, renovation, repair, demolition or other disturbance of friable asbestos containing materials.

Clean Room: An uncontaminated area or room which is a part of the worker decontamination enclosure system with provisions for storage of worker's street clothes and clean protective equipment.

Decontamination Facility (Decon): A contained area contiguous to the abatement work area that consists of an equipment room, a clean room and a shower room that is used for decontamination of workers, materials and equipment.

Demolition: 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.

RIDOH: The State of Rhode Island Department of Health.

RIDOT: The State of Rhode Island Department of Transportation.

Glovebag: A sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used glove bags, provide a small work area enclosure typically used for small scale asbestos stripping operations.

HEPA Filtration: High Efficiency Particulate Air (HEPA) filtration found in respirators and vacuum systems capable of filtering 0.3 micron particles with 99.97% efficiency, for use in asbestos contaminated environments.

Industrial Hygiene Consultant: An individual who provides industrial hygiene services in one or more of the following categories: Collection of Air Samples; Compliance Monitoring of Asbestos Abatement / Management Plans; and/or Respiratory Protection Programs.

Occupied Area: Any area adjacent to the work area which is occupied or potentially accessible by unprotected employees or the public during any time abatement activities are performed.

Prior Experience: Experience required of Contractor on asbestos abatement projects of similar magnitude and scope to ensure capability of performing the abatement in a satisfactory manner.

Similarities shall be in areas related to material composition, project size, number of employees, and the engineering work practices and personal protection controls required.

Sample Location: Area or place where an air, bulk or wipe sample is taken.

Structural Member: Any load – supporting member of a facility, such as beams and load – supporting walls or any non-load-supporting member, such as ceilings and non-load supporting walls.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water or diluted removal encapsulant and afterwards roughly decontaminated or disposed of as asbestos contaminated water.

Work Area: An asbestos control area consisting of designated rooms, spaces or areas of the project in which asbestos abatement actions are to be undertaken or which may be contaminated as a result , of such abatement actions. A contained work area is a work area which has been completely sealed with polyethylene sheeting and equipped with a decontamination area for personnel and equipment.

The following documents are made applicable and a part of the work of this Section:

1. Code of Federal Regulations (CFR) Publications:

OSHA

29 CFR 1910 – Occupational Safety and Health Standards

29 CFR 1926.1101 - Asbestos Standard for the Construction Industry

EPA

40 CFR 61 Subpart M – National Emission Standard for Asbestos

40 CFR Part 763 - Asbestos

40 CFR Part 763.80 - Asbestos Hazard Emergency Response Act (AHERA)

2. American National Standards Institute (ANSI) Publications:

z88.2-1992 Practices for Respiratory Protection

3. National Institute of Occupational Safety and Health (NIOSH) Publications:

Manual of Analytical Methods, 4th Ed., Vol. 1, Physical and Chemical Analysis Method
(P&CAM)

4. Underwriters Laboratories, Inc. (UL) Publication:

UL 586-1996 (Rev. 2004) Standard for High-Efficiency Particulate, Air Filter Units
5. State Regulations: Department of Health, Division of Occupational and Radiological Health, [R23-24.5-ASB], Rules and Regulations for Asbestos Control, as Amended December 1996 (re-filing January 2002).

SUBMITTALS:

- A. The Contractor shall provide three (3) copies of the following prior to the initiation of the work:
 1. Copies of all notifications to government agencies, permits, applications, licenses, and like documents required by federal, state, or local regulations obtained or submitted in proper fashion to perform the work required by these Specifications.
 2. Copies of Contractor's current RIDOH license and copies of each supervisor's and worker's current license to perform asbestos work.
 3. Written description of all procedures, methods, or equipment to be utilized by the Contractor that differs from the Contract Specification, including manufacturers' specifications for any equipment not specified for use in the Contract Specification.
 4. A list of all equipment to be used on-site, by make and model, including negative air pressure filtration equipment, HEPA vacuums, water atomizing devices, waste removal equipment and vehicles to be used.
 5. Chain of command of responsibility at Work Site, including supervisors, foremen, and competent person, and their names, resumes, and certificates of training.
 6. Name, address, and identification number of waste haulers and proposed disposal sites.

Excess Asbestos Liability Insurance Certificate.

Note on Insurance:

In addition to Insurance requirements in other Sections of this Specification, Contractor shall provide \$1,000,000 excess asbestos liability insurance policy (umbrella form checked

on certificate) for the Project, with RIDOT listed on the certificate as "Additional Insured."

MATERIALS:

- A. Deliver all materials in the original packages, containers or bundles bearing the name of manufacturer.
- B. Store all materials subject to damage above the ground, away from wet or damp surfaces and under sufficient cover to prevent damage or contamination. Replacement materials shall be stored outside of the work area until abatement is completed.
- C. Damaged, deteriorating, contaminated or previously used products or equipment shall not be used on this project, and shall be removed from the Site and properly disposed.
- D. Polyethylene sheeting for walls shall be a minimum of 6-mil thickness and fire retardant; sheeting shall be used in widths selected to minimize the frequency of joints.
- E. The method of attaching polyethylene sheeting shall be reviewed by the asbestos construction monitor and selected by Contractor to minimize damage to equipment and surfaces. Methods of attachment may include any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws or other procedures capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions (including the use of amended water).
- F. Polyethylene sheeting used for workers decontamination facility shall be opaque white or black in color.
- G. Disposal drums shall be waterproof (metal, fiberglass, or other waterproof container) with locking ring tops which, when sealed, are airtight and water tight.
- I. Stick-on labels as per EPA, RIDOT and OSHA Regulations must be applied to disposal drums and any other packages containing asbestos-contaminated items.
- J. Asbestos warning signs conforming to OSHA 29 CFR 1926.1101(k) shall be posted at all approaches and/or entrances to work areas where asbestos fiber levels may exceed background levels.
- K. ABC-type fire extinguishers properly pressurized and in good working condition shall be conspicuously placed in all work areas and in the clean room of the personnel decontamination facility.
- L. A fully-stocked first aid kit shall be conspicuously placed in the clean room of the personnel decon.

- M. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by manufacturer. (An equivalent surfactant shall be understood to mean a material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM method D1331-56 -"Surface and Interfacial Tension of Solutions of Surface Active Agents").
- N. Penetrating encapsulating agents used to seal residual asbestos fibers shall meet the following criteria:
1. Encapsulation material shall be approved for use on asbestos as per recommended EPA criteria as tested by Batelle Laboratories.
 2. Documentation regarding proposed encapsulation materials, including MSDS sheets and manufacturers application instructions, shall be reviewed by the industrial hygiene consultant or the industrial hygiene consultant's representative before application.
 3. Encapsulation must be applied according to manufacturer's instructions.
 4. The application of some encapsulants may require respirator cartridges other than High Efficiency Particulate Air (HEPA). The additional cartridges must be used in conjunction with the required HEPA filters for continued protection against asbestos fibers.

EQUIPMENT:

- A. Contractor shall provide approved respirators and protective clothing to all workers and all representatives of the industrial hygiene consultant, state, or other governmental entity who may inspect the Site.
- B. Protective clothing requirements:
1. Full body coveralls (Tyvek[®] or equal) will be worn one time only and disposed as asbestos- contaminated waste when removed in the equipment room of decontamination facility. In no instance shall coveralls be re-used.
 2. Head cover (Tyvek[®] or equal) will be worn one time only and disposed as contaminated waste. Under no circumstances shall respirator straps be worn over head coverings.
 3. Boots or shoe covers: no street shoes will be allowed in the work area. All work boots or shoes worn in the work area will remain in the equipment room, or will be decontaminated in the shower before removal to a clean area. Safety shoes shall be used as appropriate.

4. Hard hats, where appropriate, are to remain in the equipment room or to be decontaminated before removal to a clean area.
 5. Eye protection, where appropriate, are to remain in the equipment room or to be decontaminated before removal to a clean area.
 6. Gloves shall be used, as appropriate, during abatement procedures. Gloves shall remain in the work area and be disposed at project close-out as asbestos waste.
- C. Contractor shall require that *ALL* persons wear *ALL* appropriate protective equipment during *ALL* facets of asbestos abatement.
- D. Respiratory protective equipment shall be selected according to **OSHA Title 29 CFR, Part 1926.1101 (h), 29 CFR, Part 1910.134** and **ANSI z88.2-1980**. Respirators must also be NIOSH-approved for protection against asbestos exposure.
- E. Respirators:
1. Single-use, disposable respirators shall *not* be used and shall *not* be allowed on the Site.
 2. Negative exposure assessments (NEA) must be performed unless historical data is available from similar jobs for removal methods expected to be used on this project. Historical data must be correct (within the last 12 months). Contractor is responsible for determining airborne fiber concentrations in each work area for each phase of work (i.e. work area preparation, demolition, gross removal and fine cleaning). Personal air sampling shall be conducted at the start of each phase of work. Each personal air sample shall run a minimum of 30 minutes at a minimum of 2 liters per minute. It is the responsibility of Contractor to insure that workers wear suitable respiratory protection at all times if exposure to asbestos fibers is a possibility. This includes during work area preparations and dismantling of work areas. Contractor shall be responsible for daily air monitoring (personal). Written results of personal air monitoring shall be submitted to the Industrial hygiene consultant within 48 hours of the sampling period. If these sample results are not submitted within 48 hours of their collection, the work will stop until air sample results are submitted.
 3. Workers must perform positive and negative air pressure fit tests each time a respirator is worn. Powered air-purifying respirators (PAPR) shall be tested for adequate flow each time upon entry to the work area as specified by the manufacturer.
 4. Workers shall be given a qualitative fit test in accordance with procedures detailed in the **OSHA Asbestos Construction Standard, 29 CFR, Part 1910.134, Respiratory Protection Standard**, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
 5. Documentation of adequate respirator fit must be provided to the industrial hygiene consultant.

6. No one wearing a beard shall be permitted to wear a respirator and enter the work area, unless a NIOSH-approved, hooded respirator is worn.

F. Contractor shall have available air filtering equipment (HEPA units) capable of filtering particles of 0.3 μ diameter at 99.97% efficiency. Air filtering devices must be approved by the industrial hygiene consultant. There shall be a sufficient number of HEPA units to provide a minimum of four (4) air changes per hour in the work area. HEPA units must be exhausted outside of the building away from walkways and building air intakes unless on-site, in-position DOP tests (**conforming to ANSI N-S10**) certify that HEPA units are functioning properly. HEPA units and exhausts will be placed as far as possible from the decon. The industrial hygiene consultant may, at any time, require DOP testing of any or all HEPA filtered equipment. Reasons for requiring on-site, in-position DOP tests may include, but are not limited to:

- obvious holes or gouges in HEPA filters;
- cracked, brittle or otherwise inferior exhaust flex ducts;
- increased fiber concentrations in areas around exhaust of HEPA filtered equipment; and
- visible emissions from air filtering devices or from exhaust ducts.

G. All dry vacuums must be equipped with HEPA filtration devices (99.97%) efficient at 0.3 μ diameter.

H. Contractor shall have available sufficient equipment to mix and spray wetting agent and encapsulants. The equipment must be approved by the industrial hygiene consultant.

I. Contractor shall have a sufficient quantity of scaffolding, ladders, platforms, hand tools and materials to conduct the abatement project in an efficient and workman-like manner. All equipment shall be used according to OSHA Safety and Health Standards for the Construction Industry (**29 CFR, Part 1926**) and to manufacturer recommended use.

J. All electrical cords and connections within all work areas shall be protected with ground fault circuit interrupters (GFCI). If an electric panel board is used, it must be positioned outside the work area and it must be connected and energized by a licensed electrician. If an electrical panel board is not used, electrical power must come from outside the work area. GFCI boxes must be located outside the work area so that electrical cords entering the work area are also protected by GFCI. At no time and under no circumstances will electrical connections to outlets within the work area be allowed unless those outlets are on an electrical panel which is protected with GFCI.

K. Rubber dustpans and rubber squeegees shall be provided for cleaning.

L. Brushes utilized for removing loose asbestos-containing material shall have nylon or fiber bristles. Metal bristle brushes will not be allowed at the Site.

- M. A sufficient supply of HEPA filter-equipped vacuum systems shall be available during cleaning activities.
- N. Any equipment which cannot be adequately cleaned before removal from the work area (brushes, vacuum wands, gloves, boots, etc., shall be placed into two (2) 6-mil thickness polyethylene bags that shall be sealed air-tight before removal to a clean area.
- O. Water filtration devices shall be capable of removing all particles greater than 5 μ in length and 3 μ in diameter.

CONSTRUCTION REQUIREMENTS:

General Considerations

- A. Contractor shall post caution signs meeting the specifications of **OSHA 29 CFR, Part 1926.1101 (k)** and Rules and Regulations for Asbestos Control at any location or approach to a location where airborne fiber concentrations of asbestos may exceed ambient background levels. Caution signs shall be posted at a sufficient distance from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure. Additional caution signs may need to be posted following construction of workplace enclosure barriers. Critical barriers shall include but not be limited to large openings, such as doors or passageways. The critical barrier shall constitute the outermost boundary of the work area and shall be erected of suitable solid construction material such as plywood, sheet-rock, gypsum board or consist of existing suitable barriers and partitions. Polyethylene sheeting on open framing is not a suitable critical barrier.
- B. Contractor shall seal all intake and exhaust vents in the work area with tape and 6-mil thickness polyethylene sheeting. Also, seal any seams in system components that pass through the work area.
- C. Contractor shall provide sanitary facilities for abatement personnel outside of the enclosed work area and maintain them in a clean and sanitary condition throughout the project.
- D. Contractor shall provide water for construction purposes, unless otherwise specified.
- E. Contractor shall remove all carpeting, solid waste, and furniture existing in the rooms.
- F. Contractor shall pre-clean all remaining surfaces in the work area using HEPA filter-equipped vacuums and/or wet wiping methods, as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb ACM during the pre-cleaning phase.

- G. If necessary, Contractor shall enclose fixed objects in two (2) layers of 6-mil thickness polyethylene sheeting and seal securely in place with tape (e.g. permanent fixtures, shelves, electronic equipment, public address speakers, fire apparatus, light fixtures, alarm systems, water fountains, and telephone equipment). These objects shall be framed with wood and/or covered with plywood where necessary to provide protection from damage.
- H. Contractor shall completely seal all walls, windows, doorways, corridor entrances, drains, ducts, grills, grates, diffusers, skylights, and any other openings between the work area and uncontaminated areas outside of the work area (including the outside of the building) with two (2) layers of 6-mil thickness polyethylene sheeting and tape.

PERSONNEL DECONTAMINATION

- A. Contractor shall provide an adequate decon to insure that asbestos-containing materials (ACM) are not allowed to contaminate areas outside the work area. The location and construction of this facility shall be contiguous to the work area. The decon will include the following:

Clean room -Where employees change from street clothes to clean disposable clothes and respirators. This room must be large enough to allow for changing and storing of clothes. No asbestos-contaminated items are permitted in this room.

Shower room -A separate room used for transit by cleanly dressed people entering the work area from clean room and for showering of all persons leaving contaminated areas to enter clean areas. Hot and cold water must be provided at the tap in each shower. There shall be at least one shower for every eight workers in the work area at any time. Wastewater shall, be treated as contaminated waste or may be passed through a filter that will remove all particles greater than or equal to 5 μ in length and 3 μ in diameter. Only after such filtering may the water be disposed as uncontaminated wastewater.

Equipment area **ALL** contaminated equipment, clothing or other items (except respirator) must be left at this location before leaving the work area.

Air-locks of one foot (1') minimum depth shall be constructed of two 6-mil thickness, polyethylene sheeting full flaps and shall be located between either side of the shower room to separate contiguous chambers.

- B. **EVERYONE** entering the work area(s) shall observe the following entry and exit procedures when using a three-chambered decon:

Enter clean room and remove **ALL** street clothes, don disposable underwear, clean overalls, respirator and any other required personal, protective equipment and proceed through the shower room into the equipment room. Workers shall inspect

respirators and perform positive and negative pressure checks or check flow rate (if powered-or supplied-air respirators are worn) before entering work areas;

Proceed to work area;

Before leaving the work area, workers shall remove all visible contamination and debris from coveralls and equipment;

Proceed to the equipment room and remove all clothing and equipment **EXCEPT** respirator. Additional worker clothing may be stored in the equipment room. Coveralls are placed in a bag for disposal with other contaminated material. Proceed to shower room and take thorough shower before removing respirator;

After showering (and only after showering), the worker may proceed to the clean room. Employee must take a thorough shower including completely washing his/her hair; and

Respirators must be thoroughly washed.

Any additional required equipment room is donned. Re-entry into a clean area from this room must be preceded by a thorough shower.

**MAINTENANCE OF WORKPLACE BARRIERS AND WORKER
DECONTAMINATION ENCLOSURE SYSTEMS:**

- A. All polyethylene barriers inside the workplace, in the worker decon and at partitions constructed to isolate the work area from occupied areas shall be inspected at least twice daily, prior to the start of each day's abatement activities and following the completion of the day's abatement activities. Document inspections and observations in the daily project log.
 - 1. Use smoke tubes to test the effectiveness of the barrier system before disturbing ACM.
 - 2. Damage and defects in the enclosure system are to be repaired immediately upon discovery.
 - 3. At any time during the abatement activities, after barriers have been erected, if visible material is observed outside the work area, or if damage occurs to the barriers, all

removal work shall stop until the debris is cleaned or the barriers have been appropriately repaired.

4. If air samples collected outside of the work area during abatement activities indicate airborne fiber concentrations greater than 0.010 fibers per cubic centimeter of air (fibers/cc), work shall immediately stop for inspection and repair of barriers. Cleaning of surfaces outside the work area using HEPA filter-equipped vacuums or wet cleaning methods may be necessary. This cleaning shall be conducted, where necessary, at no cost to the OWNER.

- B. If more than one HEPA air filtration device is installed, the units should be activated one at a time, checking the integrity of wall barriers for secure attachment and need for additional reinforcement. Insure that adequate power supply is available to satisfy the requirements of the HEPA units. Enough air filtration devices shall be operated throughout the project to provide at least four (4) air changes in the work areas each hour. A negative air pressure differential of at least 0.02 inches of water column shall be maintained in the work area throughout the project. Air filtration devices shall be exhausted to the outside of the building whenever possible. They shall *not* be exhausted into occupied areas of the building. Extension duct shall be used to reach from the work area to the outside where required. Careful installation, air monitoring and daily inspections shall be performed to insure that the duct does not release asbestos fibers into uncontaminated building areas.

- C. Once the enclosure is constructed and reinforced with air filtration devices in operation, test the enclosure for leakage utilizing smoke tubes. Repair or reconstruct the enclosure as needed.

- D. Clearly identify and maintain emergency and fire exits from the work area.

- E. Remove, clean and enclose in polyethylene sheeting the ceiling mounted objects such as lights and other items that may interfere with the abatement process, and that were not previously cleaned and sealed.

WORK SHALL NOT OCCUR UNTIL:

- A. The enclosure system has been constructed and tested for integrity.

- B. Negative air pressure ventilation systems are functioning adequately.

- C. All pre-abatement submissions, notifications, postings, permits, and approvals have been provided to the Engineer and RIDOT for record. The Contractor shall be responsible for any non-compliance with applicable local, state, and federal laws and regulations during the performance of the work.

- D. All equipment for abatement, cleaning and disposal are available.
- E. All worker training (and certifications) is provided by the Contractor to the Engineer and RIDOT for record. Documentation shall be available at the Site.
- F. Contractor received written permission from RIDOT to commence abatement.

ALTERNATIVE PROCEDURES:

- A. Procedures described in this specification are to be used at all time.
- B. If specified procedures cannot be utilized, a request must be made in writing to the industrial hygiene consultant who provides details of the problem encountered and recommended alternatives.
- C. Alternative procedures shall provide equivalent or greater protection than procedures that they replace.
- D. Any alternative procedure must be approved in writing by the industrial hygiene consultant prior to implementation.

METHODS OF REMOVAL:

A. GENERAL

- 1. Wet all ACM with an amended water solution using equipment capable of providing a fine spray mist in order to reduce airborne fiber concentrations when the material is disturbed. Saturate the material to the substrate, however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Maintain a high humidity in the work area by misting the air to assist in fiber settling and reduce airborne concentrations. Do not use atomizing misters with amended water as this may cause airborne surfactants to be drawn into the lungs of work area occupants. Surfactants shall however, be used to amend all water sources used to directly wet ACM before removal. Wetting procedures shall be used in all cases and at all times.
- 2. Saturated ACM shall be removed in manageable sections. Removal shall be carried out in such a manner as to minimize the disturbance of the material to the greatest degree possible. Removed material will be containerized as soon as possible after removal (and will be containerized before moving to a new location for continuance of work). Surrounding areas shall be periodically sprayed and maintained in a wet condition until all visible material is cleaned.
- 3. Containers (6-mil thickness polyethylene bags or drums) shall be sealed when full. Bags shall be deflated while within the work area and sealed airtight. Containers shall

be labeled according to EPA regulations (**40 CFR, Part 61.22**) and DOT regulations (**49 CFR, Part 172 Subpart E**). If bags are used, "double bagging" is required. The first bag shall be wet cleaned after sealing and then placed into a clean second bag in the decon area before removal from the work area. Bags shall not be overfilled. The bags shall be sealed airtight and secured by tying and/or duct tape.

4. Asbestos-containing waste with sharp-edged components that may tear bags shall be placed into labeled sealed drum for disposal.
5. After all ACM have been removed, surfaces from which the ACM have been removed shall be wet brushed (nylon bristles) and sponged or cleaned by an equivalent method to remove all visible residue.
6. Remove all containerized waste from the work area. If a waste container transport interlock is available, containers may not pass through the decon area.
7. Wet clean all surfaces in the work area and remove all visible debris. A wet/dry shop vacuum may be used to remove excess water and gross wet debris (within the work area only).
8. Decontaminate all tools and equipment and remove at the appropriate time in cleaning sequence. Any piece of equipment which is brought into the work area must be thoroughly decontaminated in the equipment room before being removed from the work area. All gross material must be removed in the work area. Final decontamination will take place in the equipment room. The industrial hygiene consultant must be notified before removal of any equipment from the work area occurs.
9. The work area will be inspected at this time for visible debris by the industrial hygiene consultant. If any visible debris is detected, cleaning shall be repeated until approved by the industrial hygiene consultant.
10. HEPA air filtration units must be kept functioning during final cleaning, inspection and air monitoring procedures.

B. FLOOR TILE AND MASTIC, LINOLEUM AND BACKINGS, TEXTURED CEILING PLASTER, BOILER INSULATION, AND BOILER COMPONENTS.

1. All critical barriers shall be completely sealed in two layers of 6-mil thickness polyethylene sheeting.
- 2: A sufficient number of HEPA units shall be placed inside the work area to provide four (4) air changes per hour and measure 0.02 inches of water on the water column.

3. A three-chambered decon shall be constructed contiguous to the entrance of the work area. The entrance to the decon shall be constructed in such a manner to provide a secure, locked entrance to the work area.
4. ACM shall be removed in manageable sections and placed directly into waste containers
5. The asbestos abatement Contractor is responsible to perform the demolition of boilers, as necessary, to access interior boiler components such as gasketing, fire brick, roping, caulking, etc. All interior boiler components are to be assumed asbestos-containing and are the asbestos Contractor's responsibility to remove and dispose in accordance with all applicable Federal, State, and Local regulations and as specified herein.
6. At the completion of removal, a visual inspection of the work area will be performed by the industrial hygiene consultant's on-site representative. When a level of no visible suspect debris detected is achieved following the visual inspection by the industrial hygiene consultant, Contractor will encapsulate the work area.

C. **GLOVEBAG- BLOCK AND PAPER- TYPE INSULATIONS/CONDENSATION WRAP**

1. Glovebag operations shall be conducted in conformance with the work practices set forth in Appendix G of the OSHA Asbestos Regulation (**29 CFR, Part 1926.1101**) and Methods of Removal, Section A [General] .A glovebag is a single-use device that shall be disposed after removal of a single section of ACM insulation (4 linear or square feet or less). In areas where > 25 linear feet or square feet of ACM are removed using the glovebag method, a mini-containment shall be constructed. This shall include negative air filtration units and a two-chambered decon.
2. All moveable, uncontaminated objects shall be removed from the work area prior to work area preparations. Non-movable objects shall be covered and sealed airtight with 6-mil thick polyethylene prior to the disturbance of ACM.
3. All critical barriers shall be completely sealed with two layers of 6-mil thickness polyethylene sheeting in areas where > 25 linear feet or square feet of ACM will be removed by glovebag method (mini-containment).
4. One layer of 6-mil thickness polyethylene sheeting shall be placed directly beneath all glovebags.
5. All persons except those directly involved in the glovebag operation shall be excluded from the work area. Warning signs that comply with **29 CFR, Part 1926.1101** must be posted at the entrance to the work area.

6. The work area shall be maintained under a negative air pressure differential relative to adjacent areas throughout the glovebag removal operation.
7. Workers performing the glovebag removal shall wear disposable clothing and, at a minimum, a half-face negative pressure air-purifying respirator equipped with dual, HEPA filter cartridges.
8. Glovebags shall be installed so that they completely cover the ACM in such a manner as to prevent leakage of air or asbestos fibers. The arms, open edges, and other openings in the glovebag shall be sealed with duct tape (2 layers).
9. The ACM shall be wet prior to its removal and maintained in a wet condition inside the glovebag.
10. At least two persons shall perform glovebag removal operations.
11. All surfaces inside the glovebag from which ACM has been removed and the upper portion of the glovebag itself shall be cleaned by wet wiping until no visible material remains.
12. Removed ACM shall be deposited in the bottom of the glovebag. A HEPA filter-equipped vacuum shall be employed to exhaust excess air from the bag. The glovebag and its contents shall be removed from the pipes, valves, fittings or tees and immediately containerized in a second, labeled 6-mil thickness polyethylene disposal bag inside the mini-containment before disposal.
13. Glovebags shall not be used on pipes with a surface temperature greater than 150°F.

D. ASPHALT ROOF FLASHING

1. Contractor shall construct a designated walkway by use of pylons, rope or other method accepted by OSHA; ALL personnel shall use the walkway to access the work area. The walkway shall extend from the entrance to the roof to the work area.
2. The HVAC air intake system shall be isolated or deactivated prior to commencement of removal activities. All HVAC ducts, grates and/or vents shall be completely sealed with 2 layers of 6-mil thickness polyethylene sheeting prior to disturbing the roofing materials.
3. Roofing materials shall be removed in manageable sections to facilitate packaging and removal from the roof to ground level. If visible emissions are encountered during removal, all work shall stop until the cause of the emissions is identified and corrected.

4. Wet methods shall be used to remove roofing materials that are not intact or will be rendered not intact during removal, unless wetting causes a safety hazard in the opinion of a competent person.
5. If used, cutting machines shall be continuously misted during operations. All dust resulting from the cutting operation shall be collected using a HEPA filter-equipped vacuum.
6. If packaged roofing materials are removed directly from the roof, they shall not be dropped or thrown from the roof to ground level; an air-tight chute, crane or hoist shall be used to transport the waste to a roll-off canister.
7. Roofing materials shall be removed from the roof prior to the end of each work shift.
8. An acceptable clearance level following removal of the roof shall include a level of no visible debris detected on the roof.
9. If intact removal of less than 25 square feet of roofing material is performed, wet methods or vacuuming with HEPA filter-equipped equipment are not required as long as methods that do not render the roofing material non-intact are used and no visible dust is created. In determining if the project is less than 25 square feet.
10. Contractor shall include all removal work performed on the same roof on the same day.

E. WINDOW CAULKING

1. All windows shall be carefully demolished. A polyethylene drop-cloth shall be used to collect any non-friable window caulking that may delaminate during removal operations.
2. ALL window caulking shall be collected and placed within appropriate containers for disposal as ACM.

CLEARANCE AIR MONITORING:

- A. Clearance air monitoring shall be performed in accordance with the RIDOH approved asbestos abatement plan.
- B. Visual clearance to ensure all ACM have been thoroughly removed and cleaned. It is possible that during some phases of the ACM abatement visual monitoring during removal of ACM will also be conducted to ensure no visible emissions of asbestos fibers are dispersed into the air.

DISPOSAL PROCEDURES:

- A. As the work progresses, to prevent exceeding available storage capacity on-site, sealed and labeled containers of asbestos-containing waste shall be removed and transported to a RIDOT pre-approved disposal facility.
- B. The route used to transport containers of ACM from the building shall be protected with two layers of 6-mil thickness polyethylene sheeting on the floor. Contractor shall provide rolling, waterproof carriages to properly transport containerized debris from the building.
- C. Disturbance of ACM will cease in the work area while bags of debris are being transported through the decon area.
- D. Disposal must occur at an authorized site according to Federal, State and Local guidelines and regulations.
- E. A Waste Shipment Record (WSR) shall be used to document asbestos-containing wastes removed from the Site, in accordance with EPA regulation **Title 40 CFR, Part 61.150**. The WSR shall include the name and address of the buildings from which the waste is removed; the Owner's name and phone number (The State of Rhode Island Department of Transportation, 2 Capitol Hill, Providence, Rhode Island, 401-222-2211); names, addresses and phone numbers of Contractor; waste transporter(s); and authorized disposal site. Contractor, transporter and disposal site operator must all sign and date the WSR as responsibility for material changes hands. In addition, the WSR must include the type of asbestos waste materials generated, the number and type of waste containers used, and the quantity of each type of waste in cubic yards.
- F. The Contractor shall provide copies of the WSR, signed by the owner or operator of the RIDOT pre-approved disposal facility, to the Engineer and RIDOT upon completion of the waste disposal.

TRANSPORTATION TO THE LANDFILL:

- A. Once drums, bags or wrapped components have been removed from the work area, they shall be loaded into an enclosed, lockable truck for transportation.
- B. When moving containers, utilize hand trucks, carts and proper lifting techniques to avoid back injuries. Trucks with lift gates are helpful for raising drums during truck loading.
- C. The enclosed cargo area of the truck shall be free of debris and lined with 6-mil thickness polyethylene sheeting to prevent exterior contamination from leaking or spilled containers. Floor sheeting shall be installed first and extended up the sidewalls. Wall sheeting shall be overlapped and taped. Back-hauling shall not be allowed for vehicles which transport the asbestos waste from the Site to the disposal facility. Vehicles used to transport asbestos waste should not be used to transport other materials and products.

- D. Bags, drums or wrapped components shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting and bags placed on top. Do not throw containers into truck cargo area.
- E. Personnel loading asbestos-containing waste shall be protected by disposable clothing including head, body and foot protection and at a minimum, half-face shield, air-purifying, dual cartridge respirators equipped with HEPA filters.
- F. Any debris or residue observed on containers or surfaces outside of the work area resulting from cleaning or disposal activities shall be immediately cleaned using HEPA filter-equipped vacuum equipment and/or wet methods as appropriate.
- G. Large metal canisters are sometimes used for asbestos waste disposal. These must be completely enclosed and have doors that can be closed and locked to prevent vandalism or other disturbances of the asbestos and wind dispersion of asbestos fibers. Non-containerized material shall not be placed in these canisters, nor shall these canisters be used for non- asbestos waste. Bags shall be placed, not thrown, into these canisters to avoid splitting. These canisters must have warning signs conforming to **OSHA 29 CFR, Part 1926.1101 (k)** posted at all potential entry points.
- H. Trucks, canisters and/or other transport equipment shall be properly placarded according to the RIDOT; warning tapes shall be placed obviously around transport vehicles per **EPA 40 CFR, Part 61** prior to loading or unloading asbestos contaminated waste.