



Portage Public Schools
8107 Mustang Drive
Portage, MI 49002

ASBESTOS REMOVAL SPECIFICATIONS FOR
North Middle School, Central Middle School & McCamley Field House
Portage, Michigan 49002

BDN Job No. 17854

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RFP #20435 – Asbestos Removal

DATE ISSUED: May 28, 2018

Sealed Bid responses to be mailed or hand delivered to:

Portage Public Schools
Attention: Amanda Howard, Purchasing Dept.
8107 Mustang Drive, Portage, MI 49002

You must submit two (2) paper copies and one digital copy of your response.

Bid Responses Due by 2:00 PM, June 25, 2018.

Late bids will not be accepted. Emailed/Facsimile responses will NOT be accepted.

A Mandatory Pre-Bid Meeting will be held Friday, June 15, 2018 at 11:00 am

**At: Portage Central Middle School
8305 South Westnedge Ave
Portage MI 49002**

You are invited to submit a proposal for this equipment and/or service. Specifications, terms, conditions and instructions for submitting proposals are contained herein. This Request for Proposal with all pages, documents and attachments contained herein, or subsequently added to and made a part hereof, submitted as a fully and properly executed proposal shall constitute the contract between the District and the successful proposer when approved and accepted on behalf of the District by an authorized official or agent of the District.

All proposers shall complete and return the Proposal and Award page(s) and submit all information requested herein in order for a proposal to be responsive. FAILURE TO DO SO MAY RESULT IN THE PROPOSAL BEING REJECTED AS NON-RESPONSIVE. The proposal document shall be returned in its entirety, **in a properly identified and sealed envelope (which includes the project name and number) to the Purchasing Department at the above address.** PROPOSALS MUST BE RECEIVED BY TIME OF THE DUE DATE - LATE PROPOSALS WILL NOT BE CONSIDERED.

Bid responses must include all manufacturer specification sheets for all items being bid as well as any/all comps and or incentives (along with the dollar value of comps/incentives).

The Portage Public Schools Board of Education reserves the right to accept or reject any or all bids, either in whole or in part; to award contract to other than low bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interest of Portage Public Schools.

**Questions relative to the specifications may be addressed to:
Brent Bassett, BDN Representative, at bbassett@bdnihc.com**

NAME OF BIDDER

Firm Name: _____

Address: _____

Telephone & Fax: _____

Contact Name and E-mail: _____

PROJECT NAME

Project Name: Swimming & Diving Record Board - Project #20431

AGREEMENTS

The Owner reserves the right to accept or reject any or all Bids in whole or in part, or to waive any informalities therein. If in the Owner's opinion it is in their best interest, the contract may be awarded to other than the lowest bidder, for reasons of establishing uniformity, delivery time, etc.

The undersigned acknowledges the following are included with the Bid Proposal Form:

(PLEASE INITIAL EACH ITEM BELOW)

Unit Pricing: _____

Detailed Product Specification Information (where applicable): _____

Warranty Specification Information (where applicable): _____

Legal Status of Bidder: _____

Iran Economic Sanctions Act Statement: _____

Familial Relationship Disclosure Statement: _____

Two (2) paper copies: _____

One (1) digital copy: _____

Pricing Summary:

Asbestos Removal

North Middle School Total Cost: _____

Central Middle School Total Cost: _____

McCamley Field House Total Cost: _____

Shipping cost if not included above: _____

Grand Total: _____

LEGAL STATUS OF BIDDER

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS.

The Vendor and/or Bidder certifies to the best of its knowledge and belief that it and its principals: Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency; Have not within a three-year period preceding this agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offences enumerated above in this certification; and Have not within a three-year period preceding this agreement had one or more public transactions (Federal, State, or local) terminated for cause or default; is not now or has been, within a three-year period preceding this date, been listed on the Excluded Parties List System website (EPLS).

Firm Name: _____

Name, title and signature of individual duly authorized to execute contracts:

Name: _____

Title: _____

Signature: _____

A Corporation organized and existing under the laws of the State of _____

IRAN ECONOMIC SANCTIONS ACT

Effective April 1, 2013 all bids, proposals, and/or qualification statements received in the State of Michigan (MCL 129.313) must comply with the "Iran Economic Sanctions Act". The following certification is to be signed and included at the time of submittal.

CERTIFICATION

Pursuant to the Michigan Iran Economic Sanctions Act, 2012 P.A. 517, by submitting a bid, proposal or response, Respondent certifies, under civil penalty for false certification, that it is fully eligible to do so under law and that it is not an "Iran linked business", as that term is defined in the Act.

Signature

Title

Company

Date

FAMILIAL RELATIONSHIP DISCLOSURE STATEMENT

As required by Public Act 232 of 2005, all bids shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the Portage Public Schools Board of Education or the Superintendent of Schools. The Board of Education shall not accept a bid that does not include this sworn and notarized disclosure statement.

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the familial disclosure requirement provided in the Portage Public Schools advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of the company and any member of the Portage Public Schools Board of Education or the Superintendent of Schools. If such a relationship exists, please explain:

Attach additional pages if necessary

By : _____ (Bidder Signature)

Title : _____ (type or print)

Date: _____

Subscribed and Sworn to Before Me:

This _____ day of _____, 20____ A.D., in and for the

County of _____, Michigan.

My Commission expires _____.

Signature of Notary

**Portage Public Schools
Unit Price Schedule**

North Middle, Central Middle and McCamley Field House
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**Asbestos Abatement Project
BDN Job No. 17854**

UNIT COSTS

In order to increase or decrease the project amount, all prospective bidders shall be required to provide unit price costs for all items involved and to provide necessary explanations for this project.

1.	Straight pipe insulation (glove bag)	\$	In. ft.
	Straight pipe insulation (inside containment)	\$	In. ft.
	Pipe joint / fitting insulation (inside containment)	\$	fitting
	Pipe joint / fitting insulation (one glove bag)	\$	glovebag
	TSI found in wall/ceiling spaces	\$	In. ft.
	Pipe joint / fitting insulation found in wall/ceiling spaces	\$	fitting
2.	Wall/ceiling demolition to expose pipe joint/fitting Insulation	\$	per 4' x4' hole
3.	Asbestos-containing debris clean-up and disposal	\$	sq. ft.
4.	Fire Doors (tagged)	\$	door
5.	Vibration dampeners	\$	In.ft.
6.	Floor tile removal and mastic (containment)	\$	sq. ft.
	Floor tile removal without mastic	\$	sq. ft.
	Floor tile removal without mastic (heat machine or other intact material)	\$	sq. ft.
7.	Removal of mastic under gym floor	\$	sq. ft.
8.	Removal of gym flooring	\$	sq. ft.
9.	Transite panel removal and disposal	\$	sq. ft.
10.	Transite ceiling decking removal and disposal (Interior)	\$	sq. ft.
11.	Removal of drywall with glue pods	\$	sq. ft.
12.	Roof Drains	\$	per drain
13.	Boiler and Storage tank insulation removal	\$	sq. ft.
14.	Window and Door caulk	\$	In. ft.
15.	Mastic (glue) beneath chalk/ dry erase boards	\$	sq. ft.
16.	2' x 4' ceiling tile	\$	sq. ft.
17.	Transite Hood	\$	sq. ft.
18.	Glue pods	\$	sq. ft.
19.	Sinks with undercoating	\$	per sink
20.	Mobilization charge once contractor off site	\$	Per call out
21.	Exterior façade panels	\$	Sq. ft.

The Contractor may add any qualifying statements or explanations for the above proposed unit costs.

Contractor Name: _____ **Representative:** _____

Section II – ASBESTOS REMOVAL REQUIREMENTS

1.0 PROJECT ADMINISTRATION

The Owner has employed BDN Industrial Hygiene Consultants, Inc. to provide project design services, assist in the development of bid specifications, monitor air before, during and after abatement, contract administration and provide daily supervision of the project.

2.0 SCOPE OF WORK

The asbestos removal contractor will be required to furnish all labor, materials, employee training, services, insurance and equipment necessary to carry out the removal and disposal of all asbestos-containing materials (ACM) and debris under negative pressure (glovebag or negative pressure containment) for this project. Upon completion of abatement at each facility, the abatement contractor will certify in writing that all asbestos materials have been properly removed and the facility is ready for demolition or renovation. This will be a multiple phased project, with Phase 1 commencing in July of 2018 and Phase 2 commencing in June of 2019 and 2020.

DESCRIPTION OF ASBESTOS-CONTAINING MATERIALS/ NORTH MIDDLE SCHOOL	QUANTITY	ABATEMENT Costs
Pipe Fitting Insulation - Tunnel and Classrooms in 1961 Section	725 fittings	
Hot Water Tank Insulation - Pool Mechanical Room	100 square feet	
12"x12" Gray Speckled Floor Tile & Mastic - Pool Locker Rooms	350 square feet	
12"x12" Tan Floor Tile & Mastic -Room 41 and Men's Restroom in Pool Area	120 square feet	
9"x9" Green Floor Tile with Black and White Streaks & Mastic - Kitchen Area and Classrooms 110 and 112	400 square feet	
9"x9" Tan Floor Tile with Yellow Streaks & Mastic - Cafeteria Storage Areas, Mezzanine, and Kitchen Area	3,850 square feet	
9"x9" Gray, Brown or White Speckled Floor Tile & Mastic - Little Theatre and Main Office Areas	500 square feet	
Window glazing inside classroom doors (30 doors)	1 square foot each	
Transite above Doors (8 doors)	18 square feet each	
Transite inside show case to classroom door entry	120 square feet	
Asbestos Counter Tops – Rooms 104 and 106	60 square feet	
Mastic under gym floor & wood floor removal	8,000 square feet	
<i>Abatement Cost North Middle School</i>	--	

DESCRIPTION OF ASBESTOS CONTAINING MATERIALS/ CENTRAL MIDDLE SCHOOL	QUANTITY	Abatement Costs
Pipe Insulation (Magnesium Silicate, Air Cell, and Wool Felt Pipe Insulation) – throughout the 1957 Section, mostly above hard ceilings	3,400 linear feet	
Hot Water Tank Insulation - Pool Mechanical Room	100 square feet	
Boiler Tank Insulation	300 square feet	
Boiler Gasket Material - Boiler Room	20 square feet	
9"x9" Floor Tile and Mastic – Throughout the 1957 Section	2,200 square feet	
Fire Doors – Black Fire Rating Tag	10 doors	
Slate Glass Racks	5 racks	
<i>Abatement Cost Central Middle School</i>	--	

DESCRIPTION OF ASBESTOS-CONTAINING MATERIAL/ McCAMLEY FIELD HOUSE	QUANTITY	Abatement Costs
Boiler Tank Insulation – Field House Mechanical Room.	150 Square Feet	
Exterior Door Caulk – Field House Building	12 doors	
<i>Abatement Cost McCamley Field House</i>	--	

** All abatement quantities are only estimates as to the magnitude of this project. Bidding contractors are required to verify all abatement quantities.*

3.0 BID PREPARATION

By submitting a bid, the Contractor acknowledges he/she has investigated and satisfied himself/herself as to: a) The conditions affecting the work, including but not limited to physical conditions of the site which may bear upon site access, handling and storage of tools and materials, access to water, electric or other utilities, or otherwise affect performance of required activities; b) the character and quantity of all surface and subsurface materials or obstacles to be encountered in so far as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Owner or a designated consultant as well as information presented in drawings and specifications included within this specification. Any failure by the Contractor to be acquainted with available information will not relieve him/her from the

responsibility of estimating properly the difficulty or cost of successfully performing the work. The Owner, Project Designer and Construction Managers are not responsible for any conclusions or interpretations made by the Contractor on the basis of the information made available by them.

4.0 DESCRIPTION OF WORK

Portage Public Schools is soliciting bids for the removal, decontamination, and disposal of asbestos-containing materials from the designated areas.

The Contractor will be solely responsible for the safe and complete removal and disposal of all ACM described within this document. The Contractor will be responsible for coordinating the removal project with BDN, and the on-site project management representative(s) to assure uninterrupted operation throughout this abatement project. The Contractor will be responsible for any damage or disturbance of any and all remaining property of the Portage Public Schools affected during the course of or as a result of this abatement project.

Additional Contractor Requirements:

1. Set up of primary and secondary barriers.
2. Installation of decontamination unit and negative air machines.
3. Protect all electrical and telecommunication panels.
4. Supply work lighting and electrical power.
5. Contractor will supply a fully enclosed, securable dumpster.

4.1 CONSTRUCTION ADMINISTRATION

Portage Public Schools staff will provide the following work:

1. Reasonable storage space will be made available for Contractor's equipment.
2. Contractor will supply water and electricity needed to complete his work activity.
3. Parking will be made available for the Contractors and their employees.
4. An area will be made available for the Contractor's supplied, fully enclosed securable dumpster.

5.0 REMOVAL PROCEDURES

All removal procedures shall be conducted to maximize the contractor's efficiency and minimize the contractor's time on-site.

5.1 REMOVAL OF FLOOR TILE AND MASTIC

Floor tile and mastic removal activity shall take place in a negative pressure containment area which must be constructed and functional. This material shall be removed using wet methods, and removed within a full enclosure; negative-air system under a minimum air pressure gradient of 0.02 inches (water) as compared to the outside work area. The wetted materials will then be placed directly into labeled asbestos disposal bags or drums. All remaining surfaces shall be wiped clean of all visible dust and debris.

A negative pressure containment area may be waived if the floor tile is removed in an intact state, but

mastic removal must be completed in a negative pressure enclosure.

5.2 PIPE INSULATION REMOVAL

Pipe insulation may be removed utilizing negative air glove bag systems or full negative pressure containment system.

5.3 GLUE POD REMOVAL

Glue pod adhesive above 1'x1' ceiling tiles. Removal of glue pods will be within a full enclosure; negative air system under a minimum pressure gradient of 0.02 inches (water) as compared to the outside-work-area.

5.4 TRANSITE

Transite material will be removed in a negative pressure containment area which must be constructed and functional. A negative containment area may be waived if transite can be removed in an intact state.

5.5 EXTERIOR DOOR AND WINDOW CAULK

Exterior door and window caulk material will be removed in a negative pressure containment area which must be constructed and functional. A negative containment area may be waived if the exterior caulk can be removed in an intact state.

6.0 SUBMITTALS WITH BID

Copy of State license for asbestos removal in Michigan.

Copy of insurance certificate including asbestos liability policy.

7.0 AIR MONITORING

BDN Industrial Hygiene Consultants, Inc. shall perform all area and clearance air sampling and analyses associated with the abatement project.

Air monitoring shall be performed before, during, and after the abatement project to ensure compliance with applicable regulations. Monitoring shall be used to determine background information, monitor the integrity of the enclosure and for final clearances. This monitoring shall not be used in lieu of or to relieve the Contractor from the air monitoring requirements of 29 CFR Part 1926.58.

During the abatement project, air samples shall be collected daily outside the decontamination unit, downwind from negative air units and wherever deemed necessary by the Consultant and Owner. Non-clearance samples shall be analyzed within 24 hours on-site by the Consultant, utilizing Phase Contrast Microscopy (PCM) NIOSH 7400 method.

Post abatement Phase Contrast Microscopy (PCM) samples shall be collected within 24 hours.

If samples collected outside the containment result in airborne fiber concentrations of 0.01 fibers per cubic centimeter of air (f/cc) or higher, all abatement activity shall cease immediately until the cause can be determined and rectified to the satisfaction of the Consultant and Owner.

If samples collected inside the containment result in airborne fiber concentrations of 0.2 f/cc or higher, the Contractor shall alter the engineering controls to lower the asbestos fiber concentration levels to 0.2 f/cc or less. If this is not feasible, the Contractor shall keep the airborne fiber concentrations at the lowest levels achievable, which will be determined by the Owner's on-site consultant.

Clearance Sampling by TEM may be required for phases of this project.

8.0 PREMIUM FOR SCHEDULE OVERRUNS

If the Contractor cannot meet the calendar deadline or number of shifts stated in his/her bid, then the Contractor is obligated to pay a \$1,000 per day deduction off of the final contract price for each day beyond the deadline and additional shifts worked within the bid period.

NOTE: The deadline shall include the clearance sampling, removal of negative-pressure enclosure, and any additional cleaning or repairs.

9.0 PRE-CONSTRUCTION MEETINGS

After the Contract has been executed, the Consultant may arrange for a Pre-Construction Meeting to be attended by the Building Owner, Owner's Representative and the Owner's retained Industrial Hygienist, and the Asbestos Abatement Contractor who shall present abatement plans in detail.

1. These abatement plans shall include: drawings of the decontamination facilities and their locations; work area isolation plan with layout of engineering controls (e.g., HEPA ventilation vents, etc.); security program; routing plan for bridging in equipment and removing contaminated material from the building; a listing of all tools, equipment, and supplies proposed for use in the abatement project. No abatement work shall be performed without prior written approval of the Abatement Plans.
2. Description of protective clothing and approved respirators to be used.
3. Explanation of decontamination sequence to be used.
4. Description of removal and disposal methods to be used.
5. Name of proposed landfill to be used.
6. Description of the final clean-up procedures to be used.
7. Description of a contingency plan for emergencies that should cover but not be limited to: fires, loss of negative pressure, loss of electrical power, injury to an abatement employee and entrance of unauthorized personnel into a restricted area.
8. Telephone numbers and location of emergency services.

10.0 PRE-CONSTRUCTION SUBMITTALS

10.1 REGULATIONS, PERMITS, AND LICENSES

Before start of work, submit the following items to the Owner's Representative for review. Do not start work until submittals are returned with the Owner's on-site Industrial Hygienist's approval.

State and Local Regulations: Produce copies of codes and regulations applicable to the work.

Notices: Submit notices required by Federal, State, and Local regulations together with proof of timely transmittal to the agencies requiring the notices.

Permits: Submit copies of current valid permits required by State and Local regulations.

Licenses: Submit copies of all State and Local licenses and permits necessary to carry out the work of this contract.

10.2 NOTARIZED CERTIFICATIONS

Submit certification signed by an officer of the abatement contracting firm and stating that exposure measurements, medical surveillance, and work training records are being maintained in conformance with 29 CFR 1926.58.

10.3 EMPLOYEE INFORMATION

The Contractor shall submit a list of employees, social security numbers and driver licenses of those working on-site to the Owner's on-site Industrial Hygienist for background checks at the contractors expense.

10.4 CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

In Appendix B of this document is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form. This is to be completed for each abatement worker or supervisor and is to be submitted to the Owner's Representative (BDN).

10.5 RESPIRATORY PROTECTION PROGRAM

Produce level of respiratory protection intended for each operation required by the project.

NOTE: If negative pressure, air-purifying, half-mask respirators are going to be used, documentation of respirator fit tests must be submitted to the Owner's Representative (BDN).

10.6 HISTORIC AIRBORNE FIBER DATA

If required, submit airborne asbestos fiber count data from an independent air monitoring firm to substantiate selection of respiratory protection proposal. Data submitted shall include at least the following for each procedure required by the work:

- Date of measurements;
- Operation monitored;
- Sampling and analytical methods used and evidence of their accuracy;
- Number, duration, and results of samples taken;
- Name of the Company and Industrial Hygienist who performed sampling services

10.7 TRAINING PROGRAM

All asbestos abatement workers shall be trained and certified in accordance with the training requirements outlined by AHERA, EPA Model Accreditation Plan (MAP), and the State of Michigan Public Act 440, 1988 and amendments. Documentation is required in the form of a current State of Michigan certificate of course completion with certificate number, expiration date and instructor's name.

10.8 REPORT FROM MEDICAL EXAMINATION

Conducted within the last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the work area. Submit, at a minimum, for each worker the following:

1. Name and Social Security Number
2. Written Opinion from examining physician including, at a minimum, the following:
 - a. Any detected medical conditions which would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - b. Any recommended limitations on the worker or the use of personal protective equipment such as respirators.
 - c. A statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 - d. A statement that the worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
3. A copy of information that was provided to the physician in compliance with 29 CFR 1926.58.

10.9 EQUIPMENT INSTRUCTIONS

Produce complete operating and maintenance instructions for all components and systems as a whole. This is to be in bound manual form suitable for field use.

10.10 PRODUCT DATA

Produce manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for the entire assembly.

10.11 SURFACTANT

Produce product data, use instructions and recommendations from the manufacturer of the surfactant intended for use. Include data substantiating that material complies with requirements.

10.12 REMOVAL ENCAPSULANT

Produce product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.

10.13 SDS SHEETS

Produce copies of the Safety Data Sheets (SDS) for each commercial product used by the Contractor during the abatement process. This shall include, but is not limited to: encapsulants, surfactants, spray glue, duct tape and miscellaneous cleaning products.

NOTE: All commercial products must be accompanied with an SDS sheet. A product will not be allowed to be used if the SDS sheet is not readily available.

10.14 MANUFACTURER'S CERTIFICATIONS

Produce Manufacturer's certifications that HEPA vacuums, negative pressure ventilation units and other local exhaust ventilation equipment conform to ANSI 29.2-79.

11.0 SUBMITTALS DURING ABATEMENT ACTIVITIES

Submit daily, copies of worksite entry log books with information on worker and visitor access.

Submit logs documenting filter changes on HEPA vacuums, negative pressure ventilation units, and other engineering controls.

Submit results of bulk material analysis and air sampling data collected during the course of the abatement including OSHA compliance air monitoring results.

12.0 GROUNDS FOR DISMISSAL

The Owner or its representative (BDN) maintains the right to dismiss any employee of the Contractor if in the opinion of the Owner or Owner Representative said employee is:

1. Grossly negligent or incompetent;
2. Destructive or abusive to Owner's property or personnel;
3. Incompatible with the Owner or other individuals involved with the project.

The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ anyone not skilled in the task assigned him.

All employees of the Contractor shall confine themselves to the immediate work area, using only restrooms, rest areas, telephones or other similar facilities designated by the Owner's Representative. Also, there is no smoking or chewing of tobacco allowed on the school property.

Employees of the Contractor found roaming the building may be banished from the project at the discretion of the Owner's Representative.

13.0 CODES AND REGULATIONS

13.1 CONTRACTOR RESPONSIBILITY

The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and Local regulations pertaining to work practices, hauling, disposal, and protection of workers and visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and Local regulations. The Contractor shall hold the Owner, Construction Manager/General Contractor, Project Manager, Owner's Representative and the Owner's on-site Industrial Hygienist harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself/herself, his/her employees, or Subcontractors.

13.1.1 Access to Records

The Contractor shall allow EPA and OSHA personnel to monitor project progress and completion, including any financial records directly related to the project at hand.

13.2 STOP WORK ORDER

If the Owner, the Owner's Representative, or the Owner's on-site Industrial Hygienist presents a written stop work order, the Contractor shall immediately and automatically stop all work. Work shall not recommence until authorized in writing by the Owner's Representative and/or Owner's on-site Industrial Hygienist.

13.3 FEDERAL REQUIREMENTS

The following are Federal regulations which must be adhered to during the abatement project which govern asbestos abatement work or the hauling and disposal of asbestos waste materials including but not limited to:

U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules
Title 29, Part 1910, Section 1001 and
Part 1926, Section 58 of the
Code of Federal Regulations

Respiratory Protection
Title 29, Part 1910, Section 134 of the
Code of Federal Regulations

General Industry
Title 29, Part 1926, of the
Code of Federal Regulations
Access to Employee Exposure and Medical Records
Title 29, Part 1910, Section 2 of the
Code of Federal Regulations

Hazard Communication
Title 29, Part 1910, Section 1200 of the
Code of Federal Regulations

Specifications for Accident Prevention Signs and Tags
Title 29, Part 1910, Section 145 of the
Code of Federal Regulations

U.S. Environmental Protection Agency (EPA) including but not limited to:
Regulation for Asbestos
Title 40, Part 61, Subpart M of the
Code of Federal Regulations

U.S. Department of Transportation (DOT) including but not limited to:
Hazardous Materials Regulations
Title 49, Part 173, Section 1090 of the
Code of Federal Regulations

13.4 STATE REQUIREMENTS

The following are State regulations which must be adhered to during the abatement project which govern asbestos abatement work or the hauling and disposal of asbestos waste materials including but not limited to:

Michigan Public Act 135, 147, 439, 440, and 51 of 1993.

Bidders are required to comply with the Construction Safety Act, Act 154 of 1974.

13.5 LOCAL REQUIREMENTS

The Contractor is responsible for complying with all Local regulations which govern asbestos abatement work or the hauling and disposal of asbestos waste materials.

13.6 EPA GUIDANCE DOCUMENTS

The following are documents discussing asbestos abatement work or the hauling and disposal of asbestos waste materials, and are provided for the Contractor's information only. These documents do not describe the work nor are they a part of the work of this contract. Publications can be ordered by calling (202) 554-1404 in Washington, DC and they are:

Guidance for Controlling Asbestos-Containing Materials in Buildings. EPA 560/5-85- 024.

Evaluation of the EPA Asbestos-in-school Identification and Notification Rule. EPA 560/5-84-005.

Asbestos Waste Management Guidance. EPA 530-SW-85-007.

A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

Managing Asbestos In Place. EPA 20T-2003, TS-799.

The Contractor is required to have posted on-site and available to the public upon request the following documents:

Guidance for Controlling Asbestos-Containing Materials in Buildings. EPA 560/5-85-024.

OSHA Regulation 29 CFR 1910.1001

13.7 NOTICES

The following are notices which must be applied for by the contractor before any abatement activity can begin.

13.7.1 U.S. Environmental Protection Agency (EPA)

Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAPS Contact at least 10 working days prior to beginning any work on asbestos-containing materials. Send notifications to the following addresses:

NESHAP Asbestos Program
DEQ, AOD
P.O. Box 30260
Lansing, MI 48909-7060

13.7.2 State and Local Agencies

The Michigan Department of Licensing and Regulatory Affairs (LARA) requires a 10 day notification of intent prior to the removal of asbestos-containing materials. The Michigan Department of Environmental Quality form (found in Appendix A) should be filled out completely and sent to the Michigan Department of Licensing and Regulatory Affairs-MIOSHA Asbestos Program, P.O. Box 30671, Lansing, MI 48909-8171. A copy of this form shall also be sent to the local county health department.

13.8 LICENSES

Maintain current licenses as required by applicable State or Local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work on this contract.

13.9 POSTING AND FILING OF REGULATIONS

Maintain three (3) copies of the applicable Federal, State, and Local regulations listed above. Post one copy of each at the job site. Keep on file in Contractor's office one copy of each. Submit one copy to the Owner's Representative.

14.0 PROJECT COORDINATION

14.1 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

Provide a full-time Competent Person who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for buildings and personnel, disposal procedures, etc. The Competent Person is required by OSHA in 29 CFR 1926.58 and AHERA for the Contractor and is the Contractor's Representative responsible for compliance with all applicable Federal, State and Local regulations, particularly those relating to asbestos-containing materials. This person must have completed a course at an EPA Training Center or equivalent certified course in asbestos abatement procedures, have had a minimum of two (2) years on-the-job training and meet any additional requirements set forth in 29 CFR 1926.58 for a Competent Person. Furthermore, the Competent Person shall be accredited by the State of Michigan in accordance with Act 440 of Michigan Public Acts of 1988.

14.2 VENTILATION SYSTEM

It will be the responsibility of the Competent Person to make sure that the facility ventilation system is turned off and locked out before starting and during the abatement process.

14.3 SITE ACCESS RESTRICTION

The Owner's on-site Industrial Hygienist and the Contractor's Competent Person will decide who is allowed into the restricted area. No one will be admitted without the approval of the two aforementioned persons.

Entrance into the removal area will be restricted to the following persons: Owner's on-site Industrial Hygienist, abatement personnel, selected Owner's representatives and representatives of any State or Federal regulatory agency directly involved in the abatement activities.

14.4 SPECIAL REPORTS

14.4.1 Unusual Events

When an event of unusual and significant nature occurs at the site (examples: failure of negative pressure system, rupture of temporary enclosures), the Contractor shall prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

14.4.2 Accidents

Prepare and submit reports of significant accidents, at the site or anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, and/or where the event posed a significant threat of loss or personal injury.

14.5 CONTINGENCY PLAN

Prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or work area isolation procedures. Include in the plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or the provisions of adequate medical attention in the event of an emergency.

14.5.1 Evacuation Procedures

Employees shall be trained in evacuation procedures in case of workplace emergencies.

A. Non-life-threatening

For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the workplace to receive proper medical treatment.

B. Life-threatening

For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker. Remove him/her from the workplace and obtain proper medical treatment.

14.5.2 **Posted Information**

The Contractor's Competent Person shall post in the clean room of the Personnel Decontamination Unit, telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, Power Company and Telephone Company.

The Competent Person is responsible for posting a map to the nearest telephone.

15.0 **RESPIRATORY PROTECTION**

15.1 **CONTRACTOR'S RESPONSIBILITY**

It is the Contractor's responsibility to see that each employee involved in the asbestos abatement or maintenance and repair of friable asbestos-containing materials be trained in accordance with the training requirements specified by AHERA and the State of Michigan.

It is also the Contractor's responsibility to see to it that each employee who uses a negative pressure, half-mask, air-purifying respirator is fit tested in accordance with fit-testing procedures as outlined in the U.S. Department of Labor, Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910.134 and 29 CFR 1926.58 and has documentation to indicate the type of respirator used and date of fit-test.

15.2 **POWERED AIR-PURIFYING RESPIRATORS**

The Contractor shall provide a sufficient quantity of high efficiency respirator filters approved for asbestos to permit workers to change filters whenever airflow through the face piece decreases to the level at which the manufacturer recommends filter replacement. It is required that regardless of flow, filter cartridges shall be replaced after 40 hours of use. The HEPA elements in filter cartridges shall be protected from getting wet during showering.

The entire exterior housing of the respirator including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords shall be washed each time a worker leaves the work area. Caution should be used to avoid shorting the battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while the other is in use.

15.3 **NEGATIVE PRESSURE HALF-MASK RESPIRATORS**

Negative pressure half-mask respirators are permissible for removal site preparation and take-down operations. However, it is the responsibility of the Owner's on-site Industrial Hygienist to determine when and where negative pressure half-mask respirators are to be worn.

15.4 **FILTER CARTRIDGES**

The Contractor shall provide, at a minimum, HEPA filters labeled with NIOSH and MSHA Certification for "Radio nuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the

combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

15.5 RULES REGARDING RESPIRATORY PROTECTION

Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.134 and 1926.58.

Require that respiratory protection be used at all times if there is a possibility of disturbance of asbestos-containing materials, either intentional or accidental.

Require that a respirator be worn by anyone in a work area at all times, regardless of activity, during a period that starts with any operation which could release airborne fibers until the area has been cleared by the Owner's on-site Industrial Hygienist.

Regardless of airborne fiber levels, require that the minimum level of respiratory protection used be powered, air-purifying respirators with high-efficiency filters.

NOTE: Half-mask, negative pressure, air-purifying respirators are to be worn only at the discretion of the on-site Industrial Hygienist.

Single-use, disposable, or quarter-face respirators for any purpose are not allowed.

16.0 WORKER PROTECTION

16.1 WORKER TRAINING

It is the responsibility of the Contractor to see to it that the workers involved in the asbestos abatement are trained, in accordance with 29 CFR 1926.58, Michigan Public Acts 135, 147, 439, and 440 AHERA and MAP standard, in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course should include, but not be limited to:

1. Health effects associated with asbestos.
2. Relationship between smoking and asbestos in producing lung cancer.
3. Nature of operations that could result in exposure to asbestos.
4. Importance of and instruction in the use of necessary protective controls, practices, and procedures to minimize exposure including:
 - a. Engineering Controls
 - b. Work Practices
 - c. Respirators
 - d. Housekeeping Procedures
 - e. Hygiene Facilities
 - f. Protective Clothing

- g. Decontamination Procedures
 - h. Emergency Procedures
 - i. Waste Disposal Procedures
5. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134.
 6. Appropriate work practices for the work.
 7. Requirements of medical surveillance program.
 8. Review of 29 CFR 1926.58.
 9. Negative air systems.
 10. Work practices including hands-on or on-job training.
 11. Personal decontamination procedures.

16.2 MEDICAL EXAMINATIONS

Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8-hour, time-weighted average. In the absence of specific airborne fiber data, provide a medical examination for all workers who will enter the work area for any reason. Examinations shall, as a minimum, meet OSHA requirements as set forth in 29 CFR 1926.58. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress.

16.3 PROTECTIVE CLOTHING

It is the Contractor's responsibility to provide protective clothing for his/her employees and the on-site Industrial Hygienist(s) during the entire abatement operation. The items below are necessary to provide minimum worker protection during the abatement procedures but are not limited to these items.

16.3.1 Coveralls

Provide disposable, full-body coveralls and disposable head covers, and require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in the work area.

NOTE: This shall include the on-site Industrial Hygienist(s).

16.3.2 Boots

Provide work boots with non-skid soles, and where required by OSHA, foot protection, for all workers. Provide boots at no cost to workers.

16.3.3 Goggles

Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or

any other activity which may cause eye injury.

NOTE: If full-face PAPR respirators are worn during the removal process goggles will not be necessary.

16.3.4 Gloves

Provide work gloves to all workers and require that they be worn at all times in the work area. Do not remove gloves from the work area and dispose of as asbestos-contaminated waste at the end of the work.

16.3.5 Hard Hats

Provide hard hats to all workers and require that they be worn at all times in the work area.

16.4 **ADDITIONAL PROTECTIVE EQUIPMENT**

Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, the Owner's on-site Industrial Hygienist, Construction Manager/General Contractor, and other authorized personnel who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.

16.5 **BEFORE ENTERING THE REMOVAL ENVIRONMENT**

Each time a person enters and leaves the negative pressure enclosure area he/she must log in and log out. Entries should include name, last four digits of their social security number, time, and date.

16.6 **ENTERING THE REMOVAL ENVIRONMENT**

Each time the work area is entered, all persons shall remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on a new disposable coverall, a new head cover, and a clean respirator; then proceed through the shower room to the equipment room and put on work boots.

16.7 **DECONTAMINATION PROCEDURES**

It is mandatory that all workers shall adhere to the following personal decontamination procedures whenever leaving the work area.

1. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.
2. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid releasing asbestos fibers while showering. The following procedure is required as a minimum:
 - a. If using a powered, air-purifying respirator (PAPR), hold blower unit above head to keep canisters dry and thoroughly wet body including hair and face.

- b. With respirator still in place, thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to the seal between face and respirator and under straps.
 - c. Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breathe.
 - d. Carefully wash face piece of respirator inside and out.
 - If using PAPR, shut down in the following sequence: first cap inlets to filter cartridges, then turn off blower unit (this sequence will help prevent debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious to avoid getting water in battery pack as this will short out and destroy battery.
 - e. Shower completely with soap and water.
 - f. Rinse thoroughly.
3. Rinse shower room walls and floor prior to exit.
 4. Proceed from shower to changing room and change into street clothes or into new disposable work items.

16.8 RULES WITHIN THE WORK AREA

It is mandatory that workers **DO NOT** eat, drink, smoke, chew gum or tobacco in the work area. To eat, chew, drink or smoke, workers shall follow the decontamination procedure described above, then dress in street clothes before entering the non-restricted areas of the building. Additionally, there is no smoking or chewing of tobacco allowed on the school property.

17.0 PRODUCTS USED DURING ASBESTOS REMOVAL

It is the Contractor's responsibility to provide all necessary information in compliance with Michigan's Right-To-Know Law.

17.1 RIGHT-TO-KNOW REQUIREMENTS

Any commercial product or mixture of commercial products used by the Contractor during the abatement operations shall be stored in properly labeled containers. These labeled containers must include, but are not limited to, the following information:

1. Clearly labeled as to contents;
2. Appropriate hazard warning; and
3. Name and address of the manufacturer.

In addition, the Contractor's Competent Person shall have on-site and available upon request to the general public a copy of all the product safety data sheets (SDS).

18.0 WORK PREPARATION

Set up a decontamination facility outside of the work area which shall consist of a change room, shower

area and equipment area. The decontamination facility shall be subject to the approval of the Industrial Hygienist.

18.1 WARNING SIGNS

Warning signs and/or banner tape shall be erected at every point of potential entry from the outside area. The warning signs shall be a bright color so that they may be easily noticed and shall be worded in accordance with OSHA regulation 1910.1001. The size of the signs and the size of the lettering shall be no less than the OSHA 1910.1001 and 1910.145 requirements.

18.2 PRE-CLEANING

Before beginning work, wet-clean and/or HEPA vacuum any contaminated removable items and equipment not secured to surfaces covered with the asbestos material, then remove them from the work area. Unless indicated otherwise, return these items and equipment to the work area after the job has been completed, and the area has been decontaminated.

18.3 TEMPORARY LIGHTING

It is the Contractor's responsibility to provide temporary lighting in work areas.

18.4 ELECTRICAL REQUIREMENTS

The Contractor is responsible for and shall provide power cords equipped with ground fault interrupters for all equipment to eliminate the possibility of electrical hazard in the abatement area.

18.5 ISOLATE THE WORK AREA

Isolate work areas for the duration of the work by completely sealing off all openings and fixtures in the area including, but not limited to: heating and ventilation ducts, doorways, corridors, and windows. Sealing of openings and fixtures shall be accomplished with plastic (polyethylene) sheeting duct taped securely in place. Plastic shall be at least 6 mil (0.006 inches) total thickness, as comprised by one or more layers.

18.6 REMOVABLE ITEMS

Those items which must be removed or solely to facilitate abatement operations, and which are not scheduled for demolition, shall be replaced in as good a status as existed prior to the beginning of work. Any asbestos-contaminated items (i.e., ceiling tiles) or items that cannot be removed without disturbing the asbestos shall be removed after, if feasible, the set-up of the negative pressure enclosure and decontamination unit are complete and operational.

18.7 NON-REMOVABLE ITEMS

Wet clean and/or HEPA vacuum and cover all non-removable items and equipment in the work area with polyethylene sheeting taped securely in place.

18.8 CEILING, FLOOR, AND WALL COVERINGS (IF APPLICABLE)

All floor surfaces, if applicable, are to be covered with two (2) layers of 6 mil polyethylene plastic.

All wall surfaces are to be covered with two (2) layers of polyethylene plastic at least 4-mils thick. All surfaces are to be taped and/or spray-glued securely in place to protect them from damage by water or sealants.

18.9 DECONTAMINATION SHOWER SYSTEM

The Contractor shall provide an on-site decontamination shower system capable of handling the decontamination requirements of the abatement employees.

In addition, the Contractor shall also provide hot water, soap, shampoo, and towels for all personnel who enter the negative pressure enclosure. The decontamination shower system should have an attached water filtration system capable of removing asbestos fiber waste down to 5 microns in length.

18.10 NEGATIVE AIR SYSTEM

The Contractor shall provide a negative air system for use in the abatement area. This system shall be capable of producing 0.02 inches (water) of negative pressure and four (4) room changes per hour. The Contractor shall also provide a negative pressure recorder that will produce a permanent record of the negative pressure levels during the entire period the negative pressure system is in operation. The system shall be inspected by the Owner's on-site Industrial Hygienist before being put into operation.

18.11 ENTRANCE/EXIT BARRIERS

Build double barriers of polyethylene plastic at all entrances and exits to the work area so that the work area is always closed off by one barrier when workers enter or exit. Post warning signs at entrances.

19.0 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

19.1 EQUIPMENT

The Contractor is responsible for but is not limited to the following equipment:

1. A vacuum equipped with High Efficiency Particulate Air (HEPA) filter with wet and/or dry attachments.
2. Airless sprayer.
3. Ground fault interrupters.
4. Auxiliary lighting.
5. Spray bottles.

NOTE: The Contractor shall provide ground fault interrupters for each piece of electrical equipment.

19.1.1 Rental Equipment

When rental equipment is to be used in abatement areas or to transport asbestos contaminated waste, a written notification stating the intended use of the rental equipment must be provided to the rental agency with a copy submitted to the on-site Industrial Hygienist.

19.1.2 Owner's Equipment

If the Owner permits the Contractor to use any of the Owner's equipment, tools or facilities, such use will be gratuitous and the Contractor shall release the Owner from any responsibility arising from claims for personal injuries, including death, arising out of the use of such equipment, tools, or facilities irrespective of the condition thereof or any negligence on the part of the Owner in permitting their use.

19.2 PRODUCTS

Deliver all products in the original packages, containers or bundles bearing the name of the manufacturer and the brand name (where applicable).

19.2.1 Wetting Materials

For wetting prior to the disturbance of asbestos-containing materials, use either amended water or a removal encapsulant:

A. Amended Water

Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than provided by the use of one ounce of a surfactant (consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether) mixed with five gallons of water.

B. Encapsulant

Provide a penetrating type encapsulant designed specifically for removal of asbestos-containing material. Use a material which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than provided by water amended with a surfactant (consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether) mixed with five gallons of water.

19.2.2 Polyethylene Plastic

Provide a single polyethylene film in the largest sheet size possible to minimize seams, 6-mil thick as indicated, clear, frosted, or black as indicated.

19.2.3 Duct Tape

Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to aggressively adhere to polyethylene plastic.

19.2.4 **Spray Cement**

Provide spray adhesive in aerosol cans which is specifically formulated to adhere tenaciously to polyethylene plastic.

19.2.5 **Disposal Bags and Drums**

Provide 6-mil thick, leak-tight, polyethylene bags labeled or fiber drums lined with 6 mil thick polyethylene bags with two labels with text as follows:

First Label:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

Third Label: Shall contain the Owner's name and address at which the waste will be generated from.

19.2.6 **Miscellaneous Cleaning Materials**

The Contractor is responsible for providing cleaning materials including but not limited to the following:

- Buckets with ringers
- Sponges
- Mops
- Squeegees
- Scrapers
- Brushes
- Abrasive scrub pads

19.3 **SUBSTITUTIONS**

Do not substitute materials, equipment or methods that were stated in the contract unless such substitutions have been specifically approved for this work by the Industrial Hygienist. The Industrial Hygienist will consider proposals for substitutions of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data and all other information required by the Owner to evaluate the proposed substitution.

19.4 WET REMOVAL

Thoroughly wet, to the satisfaction of the Owner's on-site Industrial Hygienist, asbestos-containing materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate. Allow time for water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

19.4.1 Misting Work Area

It is the Contractor's responsibility to mist the work area with amended water whenever necessary to reduce airborne fiber levels.

20.0 PROJECT DECONTAMINATION

20.1 CLEANING THE REMOVAL AREAS

20.1.1 First Cleaning

Conduct a first cleaning of all surfaces of the work area including critical barrier sheeting, tools, scaffolding and/or staging using damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (**NOTE:** An ordinary HEPA vacuum will fail if used with wet material.) Do not dry dust or dry sweep. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue cleaning until there is no visible dust, debris or residue on plastic sheeting or other surfaces.

If the area is found to be clean and free of visible dust or debris by the on-site Industrial Hygienist, proceed to encapsulation procedures. If visible dust is present, proceed to second cleaning operations.

20.1.2 Second Cleaning

Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning. This process is to continue until the Owner's on-site Industrial Hygienist declares the area free of any visible dust.

20.2 VISUAL INSPECTION

A Complete Visual Inspection of the entire work area including decontamination unit, barrier sheeting, seals over ventilation openings, doorways and windows, etc. for debris from any sources, residue on surfaces, etc. shall be performed by the Owner's on-site Industrial Hygienist. If any such debris or residue is found, repeat the first cleaning and continue the decontamination procedure from that point. When the area is visually clean the Contractor may proceed to encapsulation.

20.3 ENCAPSULATION

All surfaces within the negative-pressure full enclosure shall be encapsulated with a colored encapsulant

by use of an airless sprayer. The encapsulant shall be applied according to the manufacturer's instructions and suggested application rate.

The encapsulant shall be allowed to dry before the non-critical polyethylene barriers are removed.

NOTE: The time allowed for drying of the encapsulant is at the discretion of the Industrial Hygienist.

20.4 **REMOVAL OF NON-CRITICAL BARRIERS**

After the encapsulant has dried, the Contractor shall remove all non-critical barriers, such as the polyethylene walls and floors, while leaving all critical barriers in place so as to maintain negative pressure within the full enclosure.

All areas beneath the non-critical barriers shall be inspected by the Industrial Hygienist for any leakage or contamination. The Contractor shall clean all leakage or contamination found by the Industrial Hygienist and repair any critical barriers, if necessary.

21.0 **CLEARANCE SAMPLING**

When the containment area passes the final visual inspection, the Industrial Hygienist shall perform clearance air sampling to determine if the response action has been properly completed.

21.1 **PHASE CONTRAST MICROSCOPY (PCM) or (TEM)**

Phase Contrast Microscopy (PCM) will be used for clearance air sampling in work areas as needed.

21.1.1 **PCM or TEM Analysis Protocol**

PCM clearance sampling shall be performed aggressively with a one-horsepower leaf blower and/or stationary fans. The amount of samples taken and locations shall comply with applicable Federal, State, and Local regulations.

22.0 **REMOVAL OF CRITICAL BARRIERS**

After the clearance air samples are found to meet release criteria, the Contractor shall remove the critical barriers and decontamination unit and conduct any necessary additional cleaning or repairs to the work area(s). The intake end of the negative air machines shall be sealed with 6-mil polyethylene at the time they are shut down and before being removed from the work area.

23.0 **DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIALS**

23.1 **PACKAGING**

All asbestos-containing waste material and debris, which is generated during the abatement project, shall be packaged and disposed of in accordance with Federal, State, and Local regulations where they apply.

All asbestos-containing material shall be disposed of in doubled 6 mil, labeled, polyethylene bags properly sealed using duct tape; or 6 mil polyethylene bag lined and labeled, properly sealed fiber drums. The Industrial Hygienist shall determine when fiber drums must be used and/or wrapping of material in 6-mil polyethylene sheets.

Double-bagging of the asbestos waste shall take place in the waste load-out enclosure or the equipment room of the personnel decontamination unit (DECON). All containerized asbestos waste shall be in the shower unit when being transported from the DECON.

NOTE: All abatement personnel involved in transportation of the asbestos waste from the negative-pressure enclosure to the transport vehicle or dumpster shall wear protective clothing and, at a minimum, a half-mask, negative-pressure, air-purifying respirator with appropriate filter cartridges.

23.2 TRANSPORTATION

Carefully load containerized waste on sealed and labeled trucks or other appropriate vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material.

Do not store bagged material for disposal outside the work area. Take bags from the work area directly to a sealed truck or dumpster. During loading and unloading of the dumpster or transport vehicle, the dumpster or vehicle must be marked with the following sign in accordance with 40 CFR 60.150 (c):

DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of accordingly.

23.3 LANDFILL

The disposal of the asbestos-containing, non-hazardous waste material shall be confined to a Type II landfill. Under no circumstances shall the material be allowed to enter a Type I landfill.

Advise the sanitary landfill operator, at least 24 hours in advance of transport, of the quantity of material to be delivered.

At the burial site, sealed plastic bags may be carefully dumped from the truck or fiber drums. If bags are broken or damaged, leave in the truck and clean entire truck and contents in accordance with asbestos decontamination procedures. If bags are broken or damaged inside the fiber drums, properly dispose of the drum as well.

Submit copies of the Waste Shipment Record signed by the landfill operator in accordance with NESHAP, 40 CFR, Part 61, Subpart M, to the Owner and Industrial Hygienist upon immediate return from the landfill operator.

BDN PROJECT NO. 17854
PORTAGE PUBLIC SCHOOLS

APPENDIX A

Michigan Department of Licensing and Regulatory Affairs (LARA)

NOTIFICATION OF INTENT TO RENOVATE/DEMOLISH



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
(MDEQ) AIR QUALITY DIVISION
NESHAP, 40 CFR Part 61, Subpart M



MICHIGAN DEPARTMENT OF LICENSING AND
REGULATORY AFFAIRS (LARA), ASBESTOS PROGRAM,
P.A. 135 OF 1986, AS AMENDED, Section 220 (1-4) or (8)

DEQ/LARA USE ONLY

Postmark Date ____/____/____ Rec'd Date ____/____/____

Emergency Date ____/____/____ Valid No. _____

OK Send Def Ltr. Date of Def Ltr. ____/____/____

FOLLOW UP ____/____/____ Spoke w/ _____

Comments: _____

Notification No. _____ Trans No. _____

Calculate LARA Asbestos Project Fee: (1% Project Fee)

Total Project Cost: _____ x 0.01 = _____

Type of Contractor: _____ License No.: _____

Licensing Authority: _____

1. NOTIFICATION:

Date of Notification: _____

Date of Revision(s): _____

Notification Type: Original Revised Canceled Annual

Mark appropriate boxes: (both DEQ and LARA may apply):

DEQ (NESHAP) [260 ln. ft./160 sq. ft. or more is threshold]

Planned Renovation – 10 **working** days notice

Emergency Renovation

Scheduled Demolition – 10 **working** days notice

Intentional Burn – 10 **working** days notice

Ordered Demolition

LARA (MIOSHA) [Will not accept annual notifications]

Demo, Reno, Encap. (>10 ln. ft./15 sq. ft.) 10 **calendar** days notice

Emergency Renovation/Encapsulation

2. PROJECT SCHEDULE:

START DATE **END DATE**

* Renovation _____ _____

+Asb. Removal _____ _____

+Demolition: _____ _____

Encapsulation: _____ _____

Work Schedule: Please indicate the anticipated days of the week and work hours for the purpose of scheduling a compliance inspection.

Days of the Week **Work Hours**

Asb. Removal: _____ _____

Demolition: _____ _____

Encapsulation: _____ _____

* Includes setup, build enclosure, asbestos removal, demobilizing, etc.

+Include **only** those dates you are conducting asbestos removal/demo.

Check here if this is a multi-phased project, attach a schedule showing the start/end date of each phase.

3. ABATEMENT CONTRACTOR: Internal Project #: _____

Name: _____

Mailing Address: _____

City/State/Zip: _____

E-mail: _____

Contact: _____ Phone: _____

4. DEMOLITION CONTRACTOR: Internal Project #: _____

Name: _____

Mailing Address: _____

City/State/Zip: _____

E-mail: _____

Contact: _____ Phone: _____

5. FACILITY OWNER: ("Facility" includes Bridges)

Name: _____

Mailing Address: _____

City/State/Zip: _____

E-mail: _____

Contact: _____ Phone: _____

6. FACILITY DESCRIPTION:

Facility Name: _____

Location Address/Description: _____

_____ If Apt. # of units: _____

City/Twp. _____ State: _____ Zip Code: _____

County: _____ Nearest Crossroad: _____

Size: (sq. ft.) _____ No. of Floors: _____ Floor No.: _____

Age: _____ Present Use: _____ Prior Use: _____

Specific Location(s) in Facility: _____

7. DISPOSAL SITE:

Name: _____

Location Address: _____

City/State/Zip: _____

8. WASTE TRANSPORTER 1:

Name: _____

Address: _____

City/State/Zip: _____

Phone: _____

WASTE TRANSPORTER 2:

9. ORDERED DEMOLITIONS: (See NESHAP regulations for definition of "Ordered Demolition.") A copy of the official Order must accompany this notification.

Gov't Agency Ordering Demo: _____

Name/Title of Person Signing Order: _____

Date of Order: _____ Date Ordered to Begin: _____

10. IS ASBESTOS PRESENT? Yes No

To be removed prior to demolition

Estimate the amount of asbestos: Include RACM (Regulated Asbestos Containing Material) to be removed, encapsulated, etc. Also include the amount and type (floor tile, roofing, etc.) of non-friable Category I and/or Category II ACM that **will not** be removed prior to demolition. (**NOTE:** In a demolition, cementitious ACM **cannot** remain in a structure, as it is likely to become regulated in the demolition/handling process. It **must** be removed prior to demolition.)

RACM to be Removed

RACM to be Encapsulated

Non-friable ACM **not** removed prior to demo.
Category I Category II

Units of Measure

				<input type="checkbox"/> Ln. Ft.	<input type="checkbox"/> Ln. M.
				<input type="checkbox"/> Sq. Ft.	<input type="checkbox"/> Sq. M.
				<input type="checkbox"/> Cu. Ft.*	<input type="checkbox"/> Cu. M.*

*Volume (cubic ft./meters) should be used only if unable to measure by linear/square measure (example: asbestos has fallen off of surface).

(continued on reverse side)

NOTIFICATION OF INTENT TO RENOVATE/DEMOLISH (continued)

11. PROJECT DESCRIPTION: Complete **A) for Renovation** (asbestos removal/encapsulation) and/or **B) for Demolition**:

A) RENOVATION: Mark all surfaces/types of RACM to be removed:

- Piping Fittings Boiler(s) Tanks(s)
 Beam(s) Duct(s) Tunnel(s) Ceiling Tile(s)
 Mag Block Other (describe) _____

Encapsulation (for LARA): Mark surfaces/types to be encapsulated:

- Piping Fittings Boiler(s) Tank(s)
 Beam(s) Duct(s) Tunnel(s) Ceiling Tile(s)
 Other (describe) _____

Method of removal: Describe how the asbestos will be removed from the surface (example: glove bag, scrape with hand tools, cut in sections and carefully lower, etc.): _____

B) DEMOLITION: Describe the method of demolition of facility, bridge, etc., and indicate if complete or partial. If partial, describe which part of facility bridge, etc., will be demolished: _____

12. ENGINEERING CONTROLS: Describe work practices and engineering controls used to prevent visible emissions before, during, and after removal, and until proper disposal: _____

13. UNEXPECTED ASBESTOS: Describe the steps you intend to follow in the event that unexpected RACM is found or previously non-friable asbestos becomes friable (crumbled, pulverized, reduced to powder, etc.) and therefore regulated: _____

14. PROCEDURE(S) USED TO DETECT THE PRESENCE OF ASBESTOS: **A)** Indicate how you determined whether or not asbestos is in the facility. If analytical sampling was used, describe method of analysis. (The determination of the presence or absence of asbestos must be made prior to submitting a renovation/demolition notification.): _____

B) Name, address, and phone number of company performing asbestos survey: _____

C) Name, accreditation number of inspector, and date of inspection: _____

15. EMERGENCY RENOVATIONS: Date/time of emergency: _____ Describe the sudden, unexpected event: _____

Explain how the event caused unsafe conditions, and/or would cause equipment damage and/or an unreasonable financial burden: _____

16. I certify that an individual trained in the provisions of 40 CFR Part 61, Subpart M, will be on-site during the renovation and during demolition involving RACM above the threshold and/or during an ordered demolition. Evidence that this person has completed the required training will be available for inspection at the renovation or demolition site.

Signature of Owner or Abatement Contractor Date

Signature of Owner or Demolition Contractor Date

17. Signature Requirements for Projects with Negative Pressure Enclosures: (required by LARA)
Per Section 221(1)(2) of P.A. 135 of 1986, as amended, clearance air monitoring is required for any asbestos abatement project involving 10 linear feet/15 square feet or more of friable material which is performed within a negative pressure enclosure. I (the building owner or lessee) have been advised by the contractor of my responsibility under Act 135 to have clearance air monitoring performed on this project.

Signature of Building Owner or Lessee Date

Signature of Asbestos Abatement Contractor Representative Date

NOTE: It is not mandatory that a signed copy be sent to LARA unless requested. For affected projects, this section of the notification form must be completed, signed, and made part of **your** records before the project begins.

18. I certify that the above information is correct:

Printed Name of Owner/Operator Date

Signature of Owner/Operator Date

MAILING ADDRESSES/PHONE NUMBERS: (See Item 1 to determine which agency requirements/regulations are applicable to your project.)

For **Public Act 135 of 1986, as amended, Section 220 (1-4) or (8)**, mail to address below. For more info visit:
<http://www.michigan.gov/asbestos>

MIOSHA Asbestos Program
 LARA, CSHD
 P.O. Box 30671
 Lansing, MI 48909-8171

517.284.7699 (office), 517.284.7700 (fax)

For **NESHAP Demolitions/Renovations, 40 CFR, Part 61, Subpart M**, please use the e-submittal process. For more information visit <http://www.michigan.gov/air>, under Air Links click on Asbestos NESHAP Program.

NESHAP Asbestos Program
 DEQ, AQD
 P.O. Box 30260
 Lansing, MI 48909-7760

517.284.6777 (Office)

BDN PROJECT NO. 17854
PORTAGE PUBLIC SCHOOLS

APPENDIX B

Certificate of Worker's Acknowledgment

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME

DATE

PROJECT ADDRESS

CONTRACTOR'S NAME

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use; you are trained in safe work practices and in the use of the equipment found on the job; and, you receive a medical examination. These things are to have been done at no cost to you. By signing this certification you are assuring the Owner that your employer has met these obligations to you.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators, and informed of the type of respirator to be used on the above referenced project. I have been equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: I have been trained in the dangers inherent in handling asbestos, breathing asbestos dust, in proper work procedures, and personal and area protective measures. The topics covered in the course included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Negative air systems
- Work practices including hands-on or on-job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months which was paid for by my employer. This examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

Signature

Printed Name

Social Security Number

Drivers License Number

Witness