

# **ASBESTOS ABATEMENT CONTRACTOR BID DOCUMENT AND SPECIFICATION**

**Aloha High School  
Auto Tech Remodel Project  
18550 SW Kinnaman Road  
Beaverton, Oregon 97078**

Prepared for:

**Beaverton School District  
16550 SW Merlo Road  
Beaverton, Oregon 97006**

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TRC Project Number: **301549**

# TABLE OF CONTENTS

SECTION.....	PAGE
TABLE OF CONTENTS.....	ii
PART 1 GENERAL - ASBESTOS .....	2
1.01 SCOPE OF WORK .....	2
1.02 PERMITS AND COMPLIANCE.....	3
1.03 SUBMITTALS.....	3
1.04 PRE-CONSTRUCTION CONFERENCE .....	4
1.05 APPLICABLE STANDARDS AND REGULATIONS .....	5
1.06 NOTICES .....	5
1.07 ENVIRONMENTAL CONSULTANT.....	5
1.08 PERSONAL AIR SAMPLING.....	7
1.09 PROJECT SUPERVISOR.....	8
1.10 RESPIRATORY PROTECTION.....	8
1.11 DELIVERY AND STORAGE .....	8
1.12 TEMPORARY UTILITIES (If required by GC).....	9
PART 2 PRODUCTS .....	9
2.01 MATERIALS.....	9
2.02 TOOLS AND EQUIPMENT .....	9
PART 3 EXECUTION .....	10
3.01 GENERAL REQUIREMENTS .....	10
3.02 PROTECTIVE CLOTHING.....	11
3.03 SIGNS AND LABELS.....	11
DANGER.....	12
RQ, (WASTE) ASBESTOS, 9, NA2212, PGIII.....	12
3.04 FRIABLE ACM REMOVAL BY FULL ENCLOSURE METHOD.....	12
3.05 REMOVAL OF NON-FRIABLE ASBESTOS-CONTAINING MATERIALS .....	15
3.06 WORK AREA DECONTAMINATION AND CLEARANCE PROCEDURES .....	17
3.07 WASTE DISPOSAL .....	17

## Appendices

### Figures

- Figure 1 – Flooring Materials Location Map
- Figure 2 – Pipe Insulation, Duct Seam Mastic and Fire Door Location Map
- Figure 3 – OSHA Regulated Ceiling Material Location Map

## Appendix A – LIMITED PRE-RENOVATION HAZARDOUS MATERIALS SURVEY REPORT

## ASBESTOS ABATEMENT SUMMARY OF WORK

The Work includes the abatement of asbestos containing materials (ACMs) and OSHA regulated materials at 18550 SW Kinnaman Road, Beaverton, Oregon in order to prepare the site for renovation. The scope of work includes abatement and proper disposal of the ACMs and OSHA regulated materials identified in this document.

Base Bid: The asbestos abatement Contractor shall furnish all labor, materials, services, insurance (specifically covering the handling, transportation of asbestos containing material (ACM), and equipment which is specified, shown, or reasonably implied for the following abatement work.

The removal and disposal as non-hazardous asbestos waste as required by applicable regulations, of the following friable and non-friable asbestos containing material identified in the Limited Supplemental Asbestos Survey Report prepared by TRC and dated April 19, 2018. The asbestos-containing materials and OSHA regulated materials to be abated and their general location(s) are as follows:

### Asbestos Containing Materials

Description	Material Location(s)	Friable / non-Friable	% ACM (Chrysotile)	Approximate Quantity
12" x 12" Brown Floor Tile with Brown and White Streaks and Associated Glue	Main Shop Mezzanine (on wood)	Non-Friable	Tile – 2% Chrysotile Glue – 5%	450 SF
12" x 12" Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue	Room 134, Office A-14	Non-Friable	Tile – 3% Chrysotile Glue – 5%	225 SF
1' x 1' Ceiling Tile with Fissures and Brown Glue	Room 134, Office A-14	Non-Friable	Tile – ND Glue – 0.7% Tremolite	150 SF
Duct Seam Tape	Mechanical Room and Above Ceiling	Non-Friable	15% Chrysotile	120 LF
Pipe Elbow/Fitting Hard Insulation	Throughout	Friable	Previously Sampled	80 Each
Mirror Mastic	Shop Storage Area	Non-Friable	Assumed	6 SF
Fire Rated Doors	Throughout Work Area	Friable	Assumed	10 Doors

## ASBESTOS

### PART 1 GENERAL - ASBESTOS

#### 1.01 SCOPE OF WORK

- A. The asbestos abatement and disturbance work related to this Project will consist of the removal and disposal of asbestos containing materials (ACM) and presumed asbestos containing materials (PACM) within portions of Beaverton High School located at 18550 SW Kinnaman Road, Beaverton, Oregon 97078 as part of a planned renovation project. This section is intended to provide instruction for requirements in connection with asbestos abatement or disturbance and is complementary to the other contract documents, which apply to this section by reference.
- B. For Work described in this Section, the Abatement Contractor (Contractor) shall furnish all labor, materials, equipment, tools, and any other resources necessary to complete the work in accordance with regulatory requirements and project contract documents, using best available technology and industry standard methods and procedures. The work shall include but not be limited to the removal and proper disposal of ACM and/or presumed ACM (PACM) materials as described below:

#### Asbestos Containing Materials

Description	Material Location(s)	Friable / non-Friable	% ACM (Chrysotile)	Approximate Quantity
12" x 12" Brown Floor Tile with Brown and White Streaks and Associated Glue	Main Shop Mezzanine (on wood)	Non-Friable	Tile – 2% Chrysotile Glue – 5%	450 SF
12" x 12" Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue	Room 134, Office A-14	Non-Friable	Tile – 3% Chrysotile Glue – 5%	225 SF
1' x 1' Ceiling Tile with Fissures and Brown Glue	Room 134, Office A-14	Non-Friable	Tile – ND Glue – 0.7% Tremolite	150 SF
Duct Seam Tape	Mechanical Room and Above Ceiling	Non-Friable	15% Chrysotile	120 LF
Pipe Elbow/Fitting Hard Insulation	Throughout	Friable	Previously Sampled	80 Each
Mirror Mastic	Shop Storage Area	Non-Friable	Assumed	6 SF
Fire Rated Doors	Throughout Work Area	Friable	Assumed	10 Doors

Please refer to Appendix A, Limited Supplemental Asbestos Survey Report dated, April 19, 2018, for additional and more detailed information on the asbestos materials present at the Site.

Estimated quantities are provided as an approximate guide to the Contractor. The material quantities listed above are approximations and TRC is not responsible for the accuracy of the quantities and measurements provided. The Contractor shall field verify material quantities, locations, and make themselves cognizant of existing field conditions prior to submitting bids for the work of this specification. Submitting of bids for work described herein shall take into consideration and utilize the Contractor's field measurements of materials and observations of the conditions verified on site.

- C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor, equipment, and materials necessary to perform the Work.
- D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent requirement shall apply.
- E. Working hours shall be as required and approved by the Owner. ERM abatement activities including, but not limited to, work area preparation, gross removal activities, waste clean-up activities, waste removal, etc. may need to be performed during the specified time period by the Owner. The Contractor shall coordinate and schedule all Work with the facility and Owner's representative.

### 1.02 PERMITS AND COMPLIANCE

- A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.
- B. Perform asbestos related Work in accordance with Federal, State and Local Regulations (U.S. Environmental Protection Agency (EPA) 40 CFR 61, Occupational Health and Safety (OSHA) 29 CFR 1926 and Oregon Department of Environmental Quality (ODEQ)). Where more stringent requirements are specified, the Contractor shall adhere to the more stringent requirements.

### 1.03 SUBMITTALS

- A. Pre-Work Submittals: Within 15 calendar days prior to the pre-construction conference, the Contractor shall submit copies of the documents listed below to Beaverton School District's Environmental Consultant for review and approval prior to the commencement of asbestos abatement activities:
  - 1. Asbestos Removal Work Plan which includes the means, methods and protective measures which will be used to comply with all applicable Federal, State and Local rules and regulations. This plan shall be completed and signed by an EPA accredited Asbestos Project Designer.
  - 2. Current worker and contractor/supervisor training records.
  - 3. Insurance Certificates
    - a. All Certificates of Insurance must name Beaverton School District as additional insured and will comply with entities noted in the contract as additional insured.
    - b. All insurance will be written through companies having an A.N. rating of at least A VII or with such other companies as may reasonably be approved by Owner. All such liability insurance maintained by the Contractor or any subcontractor will include the condition that it is primary and that any such insurance maintained by Owner or any other additional insured is excess and non-contributory.

- B. On-Site Submittals: Refer to Part 3.01.C for all submittals, documentation, and postings required to be maintained on-site during abatement activities.
- C. Project Close-out Submittals: Within 30 business days of the completion of the project, the Contractor shall submit digital and hard copies of the documents listed below. The documents shall be transmitted to the Environmental Consultant for review and approval prior to the Contractor's final payment.
  - 1. Originals of all waste disposal manifests, seals, and disposal logs.
  - 2. OSHA personal air monitoring results conducted during the Work.
  - 3. Daily progress log describing in detail the areas of work and ACM/PACM affected by the day's work activities and regulated work area entry/exit logs
  - 4. Project Notifications
  - 5. Safety Meeting Logs
  - 6. Insurance Certificates
  - 7. Workers Certifications and Medical Monitoring
  - 8. Contractors Licenses

#### 1.04 PRE-CONSTRUCTION CONFERENCE

- A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre-construction conference attended by Owner, Architect and Environmental Consultant.
- B. Agenda for this conference shall include but not necessarily be limited to:
  - 1. Contractor's Asbestos Removal Work Plan
  - 2. Environmental Consultant's duties and functions
  - 3. Contractor's Work procedures including:
    - a. Methods of job site preparation and removal methods
    - b. Respiratory protection
    - c. Disposal procedures
    - d. Cleanup procedures
    - e. Fire exits and emergency procedures
  - 4. Contractor's required pre-work and on-site submittals, documentation, and postings
  - 5. Contractor's plan for twenty-four (24) hour project security both for prevention of theft and for barring entry of unauthorized personnel into work areas

6. Temporary utilities
  7. Storage of removed asbestos containing materials
  8. Waste disposal requirements and procedures, including waste manifest and container seals
- C. In conjunction with the conference the Contractor shall accompany the Owner, Architect and Environmental Consultant on a pre-construction walk-through of the Project site.

#### 1.05 APPLICABLE STANDARDS AND REGULATIONS

All asbestos related work must be performed in accordance with EPA and OSHA regulations (40 CFR 61, 29 CFR 1926) and Oregon Department of Environmental Quality. Where more stringent requirements are specified, the Contractor shall adhere to the more stringent requirements.

#### 1.06 NOTICES

- A. The Contractor shall provide notification of intent to commence asbestos abatement activities at least ten (10) working days prior to beginning abatement activities. Written notification shall be sent to the Oregon Department of Environmental Quality Department (DEQ).
- B. The Contractor shall maintain copies of notices, and provide proof of delivery and receipt.
- C. The Contractor shall be responsible for maintaining current project filings with regulatory agencies for the duration of the project.

#### 1.07 ENVIRONMENTAL CONSULTANT

- A. The Owner shall engage the services of an Environmental Consultant (the Consultant) who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement Project period.
- B. The Contractor is required to ensure cooperation of its personnel with the Consultant for the air sampling and Project monitoring functions described in this section. The Contractor shall comply with all direction given by the Consultant during the course of the Project.
- C. The Consultant shall review and approve all Contractor submittals.
- D. The Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site.
  1. The consultant's representative shall be on-site at all times the Contractor is on-site. The Contractor shall not be permitted to conduct any Work unless the consultant's representative is on-site (except for inspection of barriers and negative air system during non-working days).
  2. The consultant's representative shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The consultant's representative shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when

- ambient fiber concentrations outside the removal area exceed 0.01 f/cc or background level.
- a. Such Stop Work order(s) shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
  - b. Standby time required to resolve the situation shall be at the Contractor's expense.
3. The consultant's representative shall provide the following services:
- a. Inspection of the Contractor's Work, practices, and procedures, including temporary protection requirements, for compliance with all regulations and Project specifications including provisions required by Variances, the Work Place Safety Plan and Asbestos Work Permit.
  - b. Provide abatement Project air sampling as required by applicable regulations and the Owner. Sampling will include background, work area preparation, asbestos handling, final cleaning and clearance air sampling.
  - c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency.
  - d. Monitor the progress of the Contractor's Work, and report any deviations from the schedule to the Owner.
  - e. Monitor, verify, and document all waste load-out operations.
  - f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
  - g. The consultant's representative shall maintain a log on site that documents all project related and Consultant and Contractor actions, activities, and occurrences.
4. The following minimum inspections shall be conducted by the consultant's representative. Additional inspections shall be conducted as required by Project conditions. Progression from one phase of Work to the next by the Contractor is only permitted with the written approval of the consultant's representative.
- a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Areas and to document these conditions.
  - b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos containing material. This inspection shall take place only after the Work Area is fully prepped for removal.
  - c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the removal areas shall be conducted by the consultant's representative during all preparation, removal, and cleaning activities at least twice every Work shift. Additional inspections shall be conducted as warranted.



- d. Pre-Encapsulation Inspection: The purpose of this inspection is to ensure the complete removal of ACM and/or PACM, from all surfaces in the Work Area prior to encapsulation.
  - e. Visual Clearance Inspection: The purpose of this inspection is to verify that: all materials in the scope of work have been properly removed; no visible asbestos debris/residue remains; no pools of liquid or condensation remains; and all required cleanings are complete. This inspection shall be conducted before final air clearance testing.
  - f. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all isolation and critical barriers and equipment from the Work Area.
- E. The Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations. Sampling will include background, work area preparation, asbestos handling, and final cleaning and clearance air sampling.
- 1. Unless otherwise required by applicable regulations, the Consultant shall have samples analyzed by Phase Contrast Microscopy (PCM) for daily area and final clearance air monitoring during asbestos removal or disturbance work. Results shall be available at the Project site within 2 hours of completion of sampling. Should TEM analysis be requested/required, results will be provided within 24 hours of receipt of samples by the accredited laboratory.
  - 2. Samples shall be collected as required by applicable regulations and these specifications.
  - 3. If the air sampling during any phase of the abatement project reveals airborne fiber levels at or above .01 fibers/cc or the established background level, whichever is greater, outside the regulated Work Area, Work shall stop immediately and corrective measures required by applicable regulations shall be initiated. Notify all employers and occupants in adjacent areas. The Contractor shall bear the burden of any and all costs incurred by this delay.
  - 4. At the completion of each abatement phase, the Consultant shall prepare an interim certificate of completion for project records.

#### 1.08 PERSONAL AIR SAMPLING

- A. The Contractor shall perform appropriate personal air monitoring in accordance with 29 CFR 1926.1101, every Work shift in each Work Area during which abatement activities occur in order to determine that appropriate respiratory protection is being worn and utilized.
- B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.
- C. The Contractor's laboratory analysis of air samples shall be conducted by laboratory accredited by the American Industrial Hygiene Association (AIHA) for PCM analysis.

- D. Results of personnel air sample analyses shall be available within 5 business days of sample collection.

#### 1.09 PROJECT SUPERVISOR

- A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
  - 1. The Project Supervisor shall hold an Asbestos Hazard Emergency Response Act (AHERA) certification as an Asbestos Contractor/Supervisor.
  - 2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one year experience as a supervisor.
  - 3. The Project Supervisor must be able to speak, read, and write English fluently, as well as communicate in the primary language of the Workers and immediate community.
- B. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Asbestos Project Monitor.

#### 1.10 RESPIRATORY PROTECTION

- A. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.
- B. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.
- C. A storage area for respirators shall be provided by the Contractor in the clean room side of the personnel decontamination enclosure where they will be kept in a clean environment.
- D. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters used with negative pressure air purifying respirators shall be changed regularly to comply with OSHA.
- E. Any visitor, Worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site.

#### 1.11 DELIVERY AND STORAGE

- A. Store all materials at the job site in a suitable and designated area.
  - 1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
  - 2. Protect materials from unintended contamination and theft.
  - 3. Storage areas shall be kept clean and organized.

- B. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris.

#### 1.12 TEMPORARY UTILITIES (If required by GC)

- A. Shut down and lock out all electrical power to the asbestos Work Areas.
- B. Provide temporary electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos Work Area.
- C. Provide temporary lighting with "weatherproof" fixtures for all Work Areas.
- D. Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. All materials shall be delivered to the job site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description, with Safety Data Sheets (SDSs) as applicable.
- B. No damaged or deteriorating materials shall be used. If material becomes contaminated the material shall be decontaminated or disposed of as asbestos-containing waste material. The cost to decontaminate and dispose of this material shall be at the expense of the Contractor.
- C. Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating no less than six (6) mil thickness.
- D. Polyethylene disposable bags shall be no less than six (6) mils thick.
- E. A commercial grade duct tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.
- F. Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable federal, state and local regulations.

### 2.02 TOOLS AND EQUIPMENT

The Contractor shall provide tools and equipment that are suitable for asbestos related activities and in good working order.

## PART 3 EXECUTION

### 3.01 GENERAL REQUIREMENTS

- A. The following submittals, documentation, and postings shall be maintained on-site by the Contractor during abatement activities:
1. Asbestos worker and contractor/supervisor certification cards for each person employed in the removal, handling, or disturbance of asbestos
  2. Daily OSHA personal air monitoring results
  3. Project documents (specifications and drawings)
  4. Applicable regulations
  5. Safety Data Sheets of supplies/chemicals used on the Project
  6. Approved Abatement Work Plan
  7. List of emergency telephone numbers
  8. Daily Project Log
- B. The following documentation shall be maintained on-site by TRC Environmental Corp. during abatement activities:
1. Air sample results
  2. Project Monitor Daily Log
  3. Asbestos Survey Report
  4. A copy of ASTM Standard E1368 "Standard Practice for Visual Inspection of Asbestos Abatement Projects"
- C. Install emergency exit signage and fire extinguishers throughout the Work Area in accordance with OSHA Construction Industry Standards.
- D. Use the following engineering controls and work practices for all asbestos abatement operations, regardless of measured exposure levels:
1. Vacuum cleaners equipped with HEPA filters to collect all asbestos-containing dust and debris
  2. Wet methods to control exposures during asbestos removal and clean-up, except where proven to be infeasible
  3. Prompt clean-up and disposal of asbestos-contaminated wastes and debris in leak-proof containers

- E. Do not use any of the following equipment or work practices during asbestos abatement operations, regardless of measured exposure levels:
  - 1. High-speed abrasive disc saws not equipped with point-of-cut HEPA ventilation or HEPA filtered exhaust air enclosures
  - 2. Blowing with compressed air to remove asbestos-containing materials
  - 3. Dry sweeping, shoveling, or other dry methods to clean up asbestos-containing dust and debris
  - 4. Employee rotation as a means of reducing employee exposure to asbestos
- F. Protect adjacent areas, materials and surfaces from damage due to demolition operations, including but not necessarily limited to the following:
  - 1. Water damage
  - 2. Dirt, dust and debris
  - 3. Abrasion
  - 4. Cuts and scratches
  - 5. Holes from fasteners for temporary barriers

### 3.02 PROTECTIVE CLOTHING

- A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.
- B. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

### 3.03 SIGNS AND LABELS

- A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.
  - 1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend.

ASBESTOS CANCER AND LUNG DISEASE  
HAZARD  
AUTHORIZED PERSONNEL ONLY  
RESPIRATORS AND PROTECTIVE CLOTHING  
ARE REQUIRED IN THIS AREA

2. Provide 3" wide OSHA-Approved barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' Above Finished Floor AFF.
- B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.
1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG DISEASE HAZARD

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172: (Note: Include "RQ" for friable asbestos waste only.)

RQ, (WASTE) ASBESTOS, 9, NA2212, PGIII

3. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:
  - Generator Name
  - Facility Name
  - Facility Address
  - EPA Generator ID Number

### 3.04 FRIABLE ACM REMOVAL BY FULL ENCLOSURE METHOD

#### A. Preparation of the Work Area

1. Install critical barriers over each opening into the regulated area. The following requirements are in addition to, not in lieu of, other indicated surface and object protection requirements:
  - a. Seal each opening between the work area and adjacent areas with not less than 2 layers of 6-mil polyethylene sheeting. Use an expanding-polyurethane foam gun to seal areas with large numbers of pipes, conduits and beams. Openings include, but are not necessarily limited to, windows, skylights, doorways, elevator hoist way openings, corridor entrances, drains, ducts, grills, grates, and diffusers.
  - b. Seal intake and exhaust vents and duct seams within the regulated area with not less than 2 layers of 6-mil polyethylene sheeting.
2. HVAC System Shutdown: Owner's maintenance personnel will shut down heating, cooling, and air conditioning systems when necessary. Coordinate scheduling with Owner's personnel.

3. Protection of Surfaces and Objects: The following requirements are in addition to, not in lieu of, indicated work area sealing requirements. Cover the following surfaces and objects as follows:
  - a. Protect all surfaces beneath all removal activity. Remove moveable objects from the work area, and cover fixed objects with impermeable drop cloths or plastic sheeting with edges securely sealed with tape.
  - b. Provide clean, fresh air to mechanical equipment, where required to maintain proper performance of equipment.
  - c. Fully pre-clean all covered surfaces with amended water and a HEPA vacuum.
  - d. Cover walls with not less than 2 layers of 6-mil polyethylene sheeting. Construct free-standing enclosure walls of not less than 6-mil polyethylene sheeting, with supports spaced not more than 3 feet on center.
  - e. Cover floors with not less than 2 layers of 6-mil polyethylene sheeting. Avoid seams where possible. If seams are necessary, overlap not less than 12 inches and tape joints. Extend sheeting 12 inches up the side walls leaving no seams at the wall and floor joint. Immediately repair punctures and leaks, and clean up seepage.
4. Cleaning: Do not use cleaning methods that raise dust, such as sweeping or using vacuum cleaners not equipped with HEPA filters. Do not disturb asbestos materials during pre-cleaning phases. Treat water removed from the enclosure as asbestos contaminated waste. Fully seal floor drains.
5. Deactivate or install ground-fault circuit interrupters on each electrical circuit within the enclosure.
6. Construct a three-chambered decontamination facility that is adjacent to and connected to the regulated area, and that consists of a dirty room, a shower room, and a clean room in series. Construct decontamination facilities that are exposed to weather of lumber and exterior grade plywood. Secure the facility when not in use.
  - a. Supply the equipment room with properly labeled, impermeable bags and containers for the containment and disposal of contaminated protective equipment.
  - b. Construct showers that comply with the requirements of 29 CFR 1910.141 (d) (3), with the shower room adjacent to both the equipment room and the clean room. Filter water waste and shower water through a 5 micron filter, or remove water from site as asbestos waste.
  - c. Equip the clean room with a locker or appropriate storage container for each employee.
7. Employee Decontamination Facilities
  - a. Access the work area only through an approved decontamination system. Lock or block other entrances. Seal emergency exits (for use during a fire or accident) with polyethylene sheeting and tape.

- b. Seal the waste pass-out, except during the removal of asbestos waste from the enclosure.
  - c. Entrance to The Regulated Area: Employees shall enter the decontamination area through the clean room, remove and store clothing, and put on protective clothing and respiratory protection before passing through to the equipment room.
  - d. Exit from The Regulated Area: Employees shall exit the regulated area by removing gross contamination and debris from their protective clothing. The clothing shall be removed and disposed of in the equipment room into labeled impermeable bags or containers. Employees shall then shower and enter the clean room before changing into street clothes.
8. Local Exhaust Ventilation: Maintain portable air filtration units with a HEPA filter in use during asbestos abatement operations requiring enclosures. Units shall conform to OSHA Standard 1926.1101, Appendix F, and shall be designed in accordance with 40 CFR 61, Subpart M, Section 61.153.
- a. Exhaust directly to building exterior. Provide a backup portable air filtration unit at each removal enclosure. Startup ventilation units prior to initiating asbestos removal operations and run until the Owner's consultant has approved their shut-down after cleaning, visual inspection, clearance sampling and tear-down.
  - b. Direct air movement within the enclosure away from the employees' work area and toward the air filtration device.
  - c. Provide not less than 4 air changes per hour within the enclosure.
  - d. Within the enclosure, through the period of its use, maintain a pressure differential of not less than minus 0.02 water gage with respect to ambient conditions outside the enclosure. Provide continuous measurement of the pressure differential at each negative pressure enclosure.
9. Visually inspect the enclosure for breeches and smoke-test for leaks before work begins, and before the start of each work shift. Make all modifications to the enclosure prior to starting removal work.

**B. Work Practices**

- 1. Immediately preceding asbestos removal, apply a fine mist of water to the asbestos materials and the surrounding area. Keep surrounding areas wet by spraying periodically with amended water. Maintain a high humidity environment to assist in fiber settling.
- 2. Remove asbestos material using two-person teams, on staging platforms, if necessary.
- 3. Remove the wet asbestos material as intact sections or components. Carefully lower the material to the floor or place directly into container. Never drop or throw asbestos material on the floor.
- 4. At working heights between 15 and 50 feet above the floor, place removed asbestos materials in containers at the elevated levels and lower to floor, or place onto inclined



chutes or scaffolding for subsequent collection and placement into containers. Clean all debris at the completion of each workday.

5. Once the asbestos material is at ground level, pack in labeled 6-mil polyethylene bags, wet and, if appropriate, hold in drums prior to starting the next section.
6. Use 2 sealed and labeled 6-mil thick bags for storage and transportation of asbestos waste. Standing water shall be in each bag
7. Wrap large components removed intact in two layers of 6-mil polyethylene sheeting, label, and secure with tape for transport to the landfill. Comply with all wetting requirements.
8. Treat wires, hangers, steel bands, nails, screws, metal lath, tin sheeting, and similar sharp objects removed with asbestos material as asbestos waste. Place in drums for disposal.
9. Label containerized asbestos waste in accordance with OSHA, EPA, and Department of Transportation regulations, as follows:
  - a. Label each container with OSHA label that contains the following information:

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG  
DISEASE HAZARD**

- b. Label each container with Owner's and Asbestos Abatement Firm's names and addresses as required by NESHAP.
  - c. Label each container with Class 9 Label required by DOT and identify waste as "RQ, Asbestos NA 2212."
10. Remove containerized asbestos waste daily from site, or store on site in a locked or secured location until ready for final disposal. Obtain approval of Owner's Representative of the location of disposal containers. Outdoor waste containers shall be fully enclosed and locked. Mark vehicles used to transport waste during the loading and unloading of asbestos waste with a visible sign, as required by NESHAP.

### 3.05 REMOVAL OF NON-FRIABLE ASBESTOS-CONTAINING MATERIALS

- A. Removal of Vinyl Floor Tile (unless rendered Friable)
  1. Prior to removal, critical barriers shall be placed over openings to the regulated area.
  2. Prior to removal, clean floors of dirt and debris with vacuums equipped with HEPA filter.
  3. Sanding the floor or related backing is not permitted.

4. Mechanical chipping of vinyl floor tile is prohibited, except when performed in a negative pressure enclosure.
5. Thoroughly wet vinyl floor tile with water. Use a slip scraper or equivalent to loosen the floor tile from the floor. Remove the floor tile in an intact state. Keep the floor tile wet throughout the removal and cleanup.
6. Place the resilient flooring material and debris in an asbestos disposal bag. Seal the bag and place it in a properly labeled drum. Comply with the disposal and labeling requirements of this document.

B. Asbestos Mastic Removal

1. Prior to removal, critical barriers shall be placed over openings to the regulated area.
2. Clean the floor of all debris using a HEPA vacuum, wet sweeping, mopping or equivalent.
3. Remove as much mastic as possible using a Consultant approved solvent. Control odors and fumes with engineering controls.
4. Perform scraping of residual adhesive using wet methods.
5. After all debris is removed, thoroughly mop the floor and allow time to dry.
6. Properly dispose of all asbestos and solvent waste according to all applicable regulations, and comply with the disposal and labeling requirements of this Section.

C. Asbestos-Containing Siding and Transite Panels

1. Create a regulated work area and place impermeable drop cloths on surfaces beneath removal activity.
2. Cutting, abrading, or breaking material is not permitted.
3. Wet material with water prior to removal.
4. Carefully disassemble material such a manner as to prevent breakage.
5. Wrap and seal material in two layers 6-mil thick polyethylene, asbestos disposal bags, or equivalent. Seal bags or packages and properly label them with appropriate asbestos warning signs.

D. Non-Friable Asbestos Containing Exterior Sealant, Caulk, Putty and Window Glazing

1. Create a regulated work area and place impermeable drop cloths on surfaces beneath removal activity.
2. Any existing loose material shall be HEPA vacuumed prior to removal.
3. The material shall be thoroughly wetted prior to and during its removal.

4. The material should be removed as intact as possible. Manual methods shall be used.
5. Removed ACM shall be immediately bagged.
6. The removal of windows and other whole building components without disturbing the asbestos is encouraged.
7. If the material becomes friable during the abatement process, comply with the requirements for friable asbestos removal.

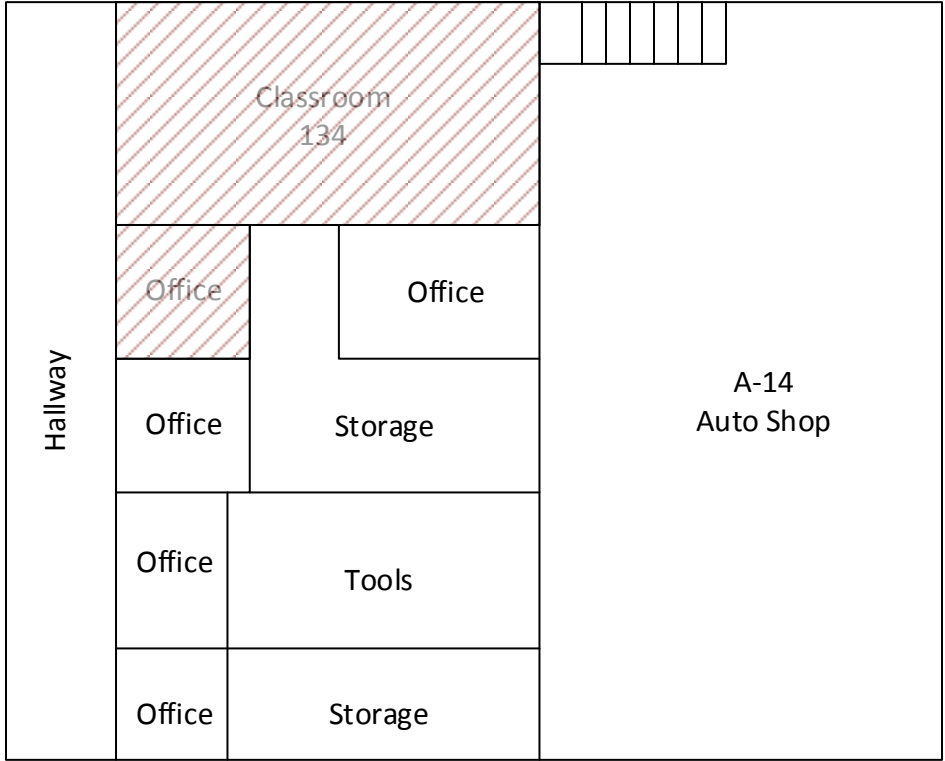
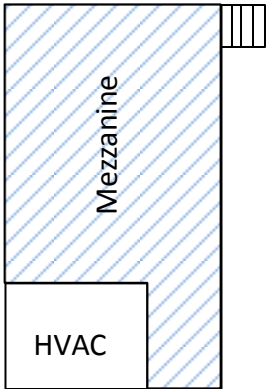
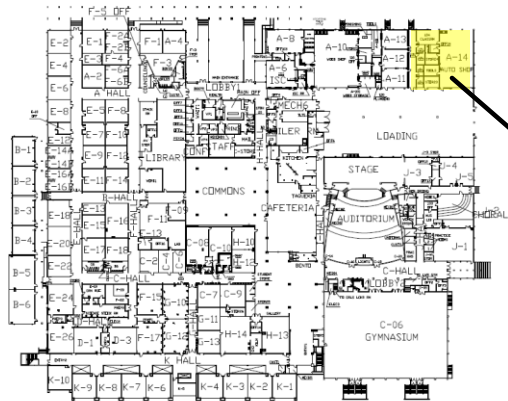
### 3.06 WORK AREA DECONTAMINATION AND CLEARANCE PROCEDURES



- A. The Asbestos Abatement Contractor's representative, in presence of Owner's consultant, shall inspect the entire work area for asbestos.
- B. If any suspect asbestos dust or debris is found, repeat final cleaning operation, until the visual inspection is satisfactory to the Owner's consultant.
- C. After final visual clearance criteria have been achieved in the work areas, the Owner's consultant will notify the Abatement Contractor to encapsulate all walls, floors, ceilings, other exposed surfaces, and decontamination facilities.
- D. Clearance air sampling will be completed by the Owner's consultant after the encapsulant has dried. Any costs associated with re-cleaning due to failed clearance results will be the sole responsibility of the Abatement Contractor. All clearance air samples shall be at or below 0.01 fibers per cubic centimeter as measured using Phase Contrast Microscopy (NIOSH 7400 method) or below 70 structures per square millimeter by Transmission Electron Microscopy (TEM) using the AHERA analytical method.
- E. After abatement clearance is given by the Asbestos Project Monitor the Abatement Contractor may remove the containment, which shall be disposed of as ACM.

### 3.07 WASTE DISPOSAL

- A. All waste will be transported and disposed of in compliance with DOT requirements and all applicable Federal, State and local regulations. Disposal must occur at an acceptable landfill accompanied by a waste manifest.
- B. A copy of all waste manifests shall be given to Owner upon completion of the project

## FIGURES

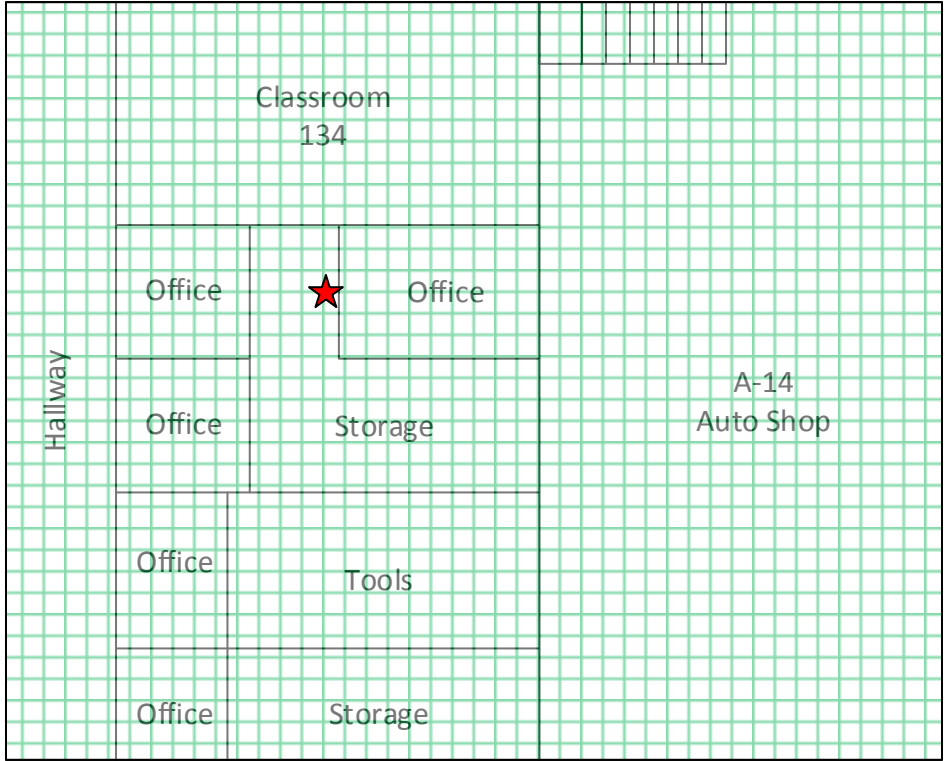
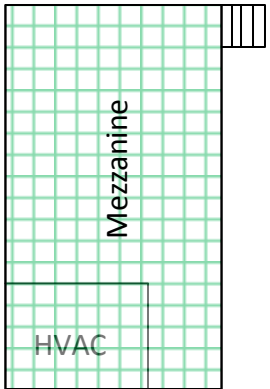
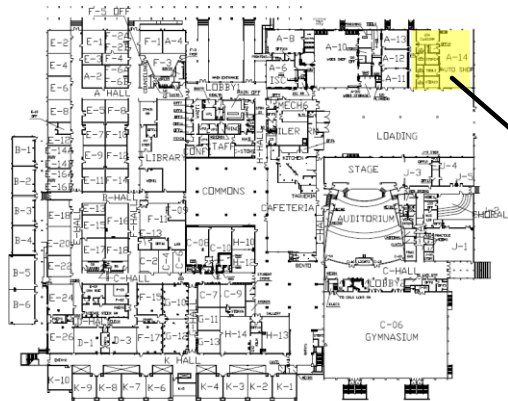


LEGEND	
	12" x 12" Brown Floor Tile with Brown and White Streaks and Associated Glue
	12" x 12" Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue

HAZARDOUS MATERIALS SURVEY REPORT ASBESTOS CONTAINING FLOORING LOCATION DIAGRAM	
ALOHA HIGH SCHOOL 18550 SW KINNAMAN ROAD BEAVERTON, OREGON 97007	
TRC Project No.: 301549.0001	Figure: 1
Drawn by: MC	Reviewed by: RAL
	Date: 10/23/18



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 Milwaukie, Oregon 97222  
 Phone: (503) 387-3251 Fax: (503) 908-1318

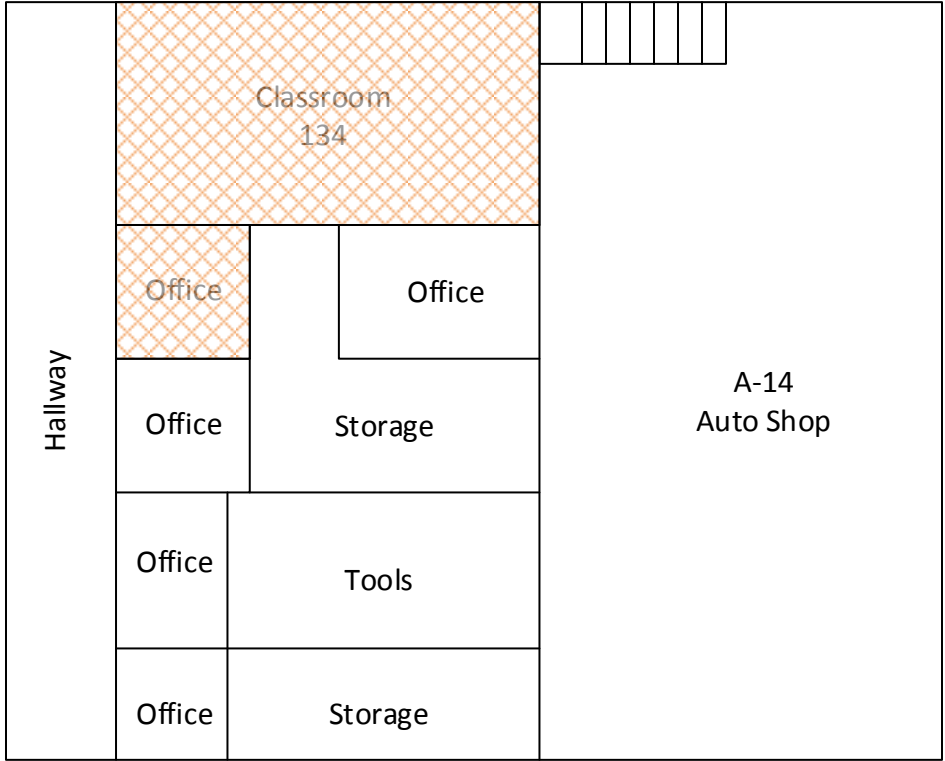
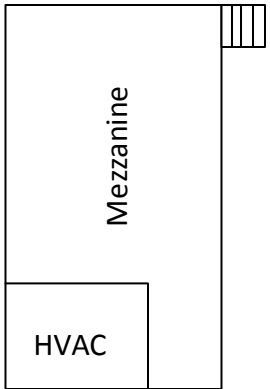
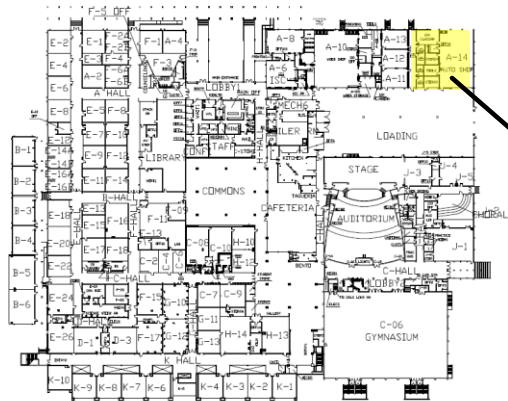


LEGEND	
	Asbestos-Containing Duct Seam Tape, Pipe Elbow/ Fitting Hard Insulation and Fire Doors Located Throughout.
	Mirror Mastic


HAZARDOUS MATERIALS SURVEY REPORT ASBESTOS CONTAINING FLOORING LOCATION DIAGRAM	
ALOHA HIGH SCHOOL 18550 SW KINNAMAN ROAD BEAVERTON, OREGON 97007	
TRC Project No.: 301549.0001	Figure: 2
Drawn by: MC	Reviewed by: RAL
	Date: 10/23/18



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**LEGEND**

 — **OSHA Regulated Brown Glue Associated with 1' x 1' Ceiling Tile with Fissures**

**HAZARDOUS MATERIALS SURVEY REPORT**  
**OSHA REGULATED CEILING LOCATION DIAGRAM**

ALOHA HIGH SCHOOL  
 18550 SW KINNAMAN ROAD  
 BEAVERTON, OREGON 97007

TRC Project No.: 301549.0001	Figure: 3
Drawn by: MC	Reviewed by: RAL
	Date: 10/23/18



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**APPENDIX A**

**LIMITED SUPPLEMENTAL ASBESTOS SURVEY REPORT**

**Aloha High School  
18550 SW Kinnaman Road  
Beaverton, Oregon 97078  
Dated April 19, 2018**



# **LIMITED SUPPLEMENTAL ASBESTOS SURVEY REPORT**

**Aloha High School**  
**18550 SW Kinnaman Road**  
**Beaverton, OR 97078**

Prepared for:

**Beaverton School District**  
16550 SW Merlo Road  
Beaverton, OR 97006

**Inspection Date:** March 27, 2018  
**Report Prepared:** April 19, 2018

Prepared By:



4105 SE International Way, Suite 505  
Milwaukie, OR 97222  
503.387.3251

TRC Project Number: 301549

## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	1
BACKGROUND .....	2
<i>Asbestos Containing Materials</i> .....	2
<i>OSHA Regulated Materials</i> .....	2
<i>Asbestos Sampling and Analytical Procedures</i> .....	2
ASBESTOS FINDINGS & RECOMMENDATIONS .....	3
RECOMMENDATIONS .....	5
DISCLAIMER .....	5

### **Appendices**

- Appendix A – Figures
- Appendix B – Laboratory Analytical Data Sheets
- Appendix C – Inspector Certification(s)

## **EXECUTIVE SUMMARY**

TRC Environmental Corporation (TRC) was contracted by the Beaverton School District to conduct a supplemental asbestos survey, including collection of bulk samples, laboratory analysis, and preparation of a report for Aloha High School located at 18550 SW Kinnaman Road in Beaverton, Oregon 97078. Mr. Matt Cuda, AHERA accredited building inspectors, performed the survey on March 27<sup>th</sup>, 2018. The survey activities included the review of prior sampling documentation and reports provided by the District, inspection and assessment of accessible suspect building materials, collection of bulk samples of suspect asbestos containing building materials that had previously not be sampled, and submission of bulk samples for laboratory analysis.

### **ASBESTOS MATERIAL SUMMARY**

Suspect asbestos containing building materials were sampled and submitted under the chain-of-custody (COC) protocol to an accredited laboratory for polarized light microscopy (PLM) bulk sample analysis. Inspection, sampling and analytical procedures were performed in general accordance with the U.S. Environmental Protection Agency's (EPA's) National Emission Standards for Hazardous Air Pollutants (NESHAP) EPA 40 CFR 61 Subpart M, the EPA Asbestos Hazard Emergency Response Act (AHERA) 40 CFR Part 763, and Federal Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101 guidelines.

The following materials sampled during this investigation and prior investigations were identified as asbestos containing materials:

- 12" x 12" Brown Floor Tile with Brown and White Streaks and Associated Glue.
- 12" x 12" Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue.
- Duct Seam Tape Associated with HVAC Ducts.
- Hard Fittings with Fiberglass Insulation (previously tested positive)

TRC inspected wall/ceiling cavities to locate any potential suspect pipe insulation and other hidden materials. Hard fittings found within the survey area were previously tested to be asbestos containing because they were labeled as ACM. The potential also exists for hidden pipe insulation materials to exist within wall/ceiling/floor cavities that were not accessible.

The following materials sampled during this investigation and prior investigations were identified as OSHA Regulated Materials (OSHA):

- Glue associated with 1' x 1' Ceiling Tile with Fissures.

Additionally, any materials uncovered during renovation activities that are not addressed in this inspection report or prior reports for the building are considered presumed asbestos containing materials and must be sampled by an accredited asbestos inspector prior to disturbance, or they must be treated as asbestos containing.

## INTRODUCTION

A supplemental asbestos survey was conducted by TRC at Aloha High School, located at 18550 SW Kinnaman Road in Beaverton, Oregon. It was reported by the client that this limited hazardous materials survey is being conducted in conjunction with their Auto Tech renovation project. The survey activities were performed on March 27<sup>th</sup>, 2018 and included the review of prior sampling documentation and reports as well as the inspection, assessment and bulk sampling of suspect asbestos containing building materials that had not previously been sampled. Sample locations are presented on the Sample Location Diagram in Appendix A.

Mr. Matt Cuda, AHERA accredited building inspectors, conducted the asbestos survey inspection and sampling activities. Copies of training certificates and state licenses (where applicable) are presented in Appendix C, Inspector Certifications.

## BACKGROUND

### Asbestos Containing Materials

The United States Environmental Protection Agency (EPA) define an asbestos-containing material (ACM) as any material containing more than one percent (>1.0%) asbestos by weight. In addition, ACMs are designated as:

Friable asbestos - material which can be crumbled, pulverized or reduced to powder by hand pressure, a.k.a. Regulated Asbestos Containing Materials (RACM).

Category I Non-friable - includes resilient floor coverings, asphalt roofing products, gaskets and packing.

Category II Non-friable - any non-friable ACM that is not in Category I (i.e. Asbestos-cement (Transite) siding or roofing material).

### OSHA Regulated Materials

The Occupational Safety and Health Administration (OSHA) regulates all materials containing any detectable level of asbestos by weight, including those materials containing 1.0% or less.

### Asbestos Sampling and Analytical Procedures

Representative bulk samples of suspect asbestos-containing building materials were randomly collected from the interior of the building. Homogenous material determination was based on the following criteria:

- Similar physical characteristics (same color and texture, etc.),
- Application (sprayed or trowel-on, assembly into a system, etc.),
- Material function (thermal insulation, floor tile, wallboard system, etc.).

The bulk samples were collected, labeled, and shipped to the certified analytical laboratory under proper COC documentation, and condition and approximate quantity assessments were performed by the accredited inspector during the inspection. Laboratory services were provided by EMC Labs, Inc., in Phoenix, Arizona, a National Voluntary Laboratory Accreditation Program (NVLAP code #101424-0).

Bulk samples were analyzed by PLM utilizing the EPA’s Test Methods: Methods for the Determination of Asbestos in Bulk Building Materials (EPA 600/R-93/116, July 1993) and the McCrone Research Institute’s The Asbestos Particle Atlas as method references.

Analysis by PLM was performed by visual observation of the bulk sample and slides prepared of the bulk sample for microscopic examination and identification. The samples were analyzed for asbestos (Chrysotile, Amosite, Crocidolite, Anthophyllite, and Actinolite/Tremolite), fibrous non-asbestos constituents (mineral wool, cellulose, etc.) and non-fibrous constituents. Using a stereoscope, the microscopist visually estimates the relative amounts of each constituent by determining the estimated area of the asbestos compared with the area estimate of the total sample.

## ASBESTOS FINDINGS & RECOMMENDATIONS

The following table presents the location and quantities of each suspect building material identified and sampled during this survey as well as all applicable analytical results:

Sample No.	Material	Sample Location	Asbestos Content	Approximate Quantity
AHS-01A AHS-01B AHS-01C	12” x 12” Brown Floor Tile with Brown and White Streaks and Associated Glue	Main Shop Mezzanine	Tile – 2% Chrysotile Glue – 5%	450 SF
AHS-02A AHS-02B AHS-02C	12” x 12” Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue	Room 134, Office A-14	Tile – 3% Chrysotile Glue – 5%	225 SF
AHS-03A AHS-03B AHS-03C	12” x 12” Off-White Floor Tile and Associated Glue	Storage A-15, Pantry A-16, Office A-17	Tile – ND Glue – ND	N/A
AHS-04A AHS-04B AHS-04C	1’ x 4’ Drop-in Ceiling Tile, Fissures and Pinholes	Main Shop	ND	N/A
AHS-05A AHS-05B AHS-05C	2’ x 4’ Drop-in Ceiling Tile, Fissures and Pinholes	Main Shop Mezzanine	ND	N/A
AHS-06A AHS-06B AHS-06C	1’ x 1’ Ceiling Tile with Fissures and Brown Glue	Room 134, Office A-14	Tile – ND Glue – 0.7% Tremolite	150 SF
AHS-07A AHS-07B AHS-07C	Brown Cove Base and Associated Glue	Shop Office A-16, Office A-17, Shop Mezzanine	Base – ND Glue – ND	N/A
AHS-08A AHS-08B AHS-08C	Blue Cove Base and Associated Glue	Shop Office, Shop Storage, Main Shop	Base – ND Glue – ND	N/A
AHS-09A AHS-09B AHS-09C	Tan Cove Base and Associated Glue	Office A-14	Base – ND Glue – ND	N/A

ND = Non-detect

SF = Square feet

LF = Linear Feet

N/A = Not Applicable

Sample No.	Material	Sample Location	Asbestos Content	Approximate Quantity
AHS-10A AHS-10B AHS-10C	Ceramic Tile Grout/Glue	Main Shop Storage/ Restroom	ND	N/A
AHS-11A AHS-11B AHS-11C	Gypsum Board and Joint Compound	Throughout	G.B. – ND J.C. – ND	N/A
AHS-12A AHS-12B AHS-12C	Concrete	Throughout	ND	N/A
<b>AHS-13A AHS-13B AHS-13C</b>	<b>Duct Seam Tape</b>	<b>Mechanical Room and Above Ceiling</b>	<b>15% Chrysotile</b>	<b>120 LF</b>
AHS-14A AHS-14B AHS-14C	CMU Grout	Throughout	ND	N/A

Asbestos Containing Materials (ACMs)

Asbestos was detected in the following materials sampled during this and prior investigations:

Material	Approximate Location(s)	Approximate Quantity
12" x 12" Brown Floor Tile with Brown and White Streaks and Associated Glue	Main Shop Mezzanine	450 SF
12" x 12" Light Brown Floor Tile with Tan and Brown Streaks and Associated Glue	Room 134, Office A-14	225 SF
Pipe Elbow/Fitting Hard Insulation	Throughout	60 Each
Duct Seam Tape	Mechanical Room and Above Ceiling	120 LF

It should be noted that Hard fittings with fiberglass pipe insulation were found on piping located within the mechanical room. This material was not sampled at the time of the inspection due to it being labeled as asbestos containing.

OSHA Regulated Materials (<1.0%)

Asbestos was detected in the following materials in concentrations <1.0% and thus are regulated by OSHA:

Material	Approximate Location(s)	Approximate Quantity
Brown Glue Associated with 1' x 1' Ceiling Tile with Fissures	Room 134, Office A-14	150 SF

Non-Detect Materials (ND)

Asbestos was not detected in the following materials sampled during this investigation:

<b>Material</b>	<b>Location</b>
12" x 12" Off-White Floor Tile and Associated Glue	Storage A-15, Pantry A-16, Office A-17
1' x 4' Drop-in Ceiling Tile, Fissures and Pinholes	Main Shop
2' x 4' Drop-in Ceiling Tile, Fissures and Pinholes	Main Shop Mezzanine
Brown Cove Base and Associated Glue	Shop Office A-16, Office A-17, Shop Mezzanine
Blue Cove Base and Associated Glue	Shop Office, Shop Storage, Main Shop
Tan Cove Base and Associated Glue	Office A-14
Ceramic Tile Grout/Glue	Main Shop Storage/ Restroom
Gypsum Board and Joint Compound	Throughout
Concrete	Throughout
CMU Grout	Throughout

Due to the Site being an occupied building at the time of the inspection and sampling, a full destructive investigation for concealed materials was not performed. Hidden building materials (e.g., old floor mastic patches hidden under carpeting, chalkboard mastic, mirror mastic, wood paneling mastic, etc.), other than those discussed in this report, could be uncovered when removing building finishes during renovation activities. Any materials encountered during the renovation activities that are not identified in this report, should either be presumed to be asbestos containing and handled as ACM or be sampled by an accredited asbestos inspector to determine if it contains asbestos.

**RECOMMENDATIONS**

All identified asbestos containing materials from this investigation and previous investigations must be removed by a licensed asbestos abatement contractor prior to any renovation or demolition activities. Additionally, any materials uncovered during renovation or demolition activities that are not addressed in this inspection report or prior reports for the building are considered presumed asbestos containing materials and must be sampled by an accredited asbestos inspector prior to disturbance, or they must be treated as asbestos containing.

**DISCLAIMER**

The content presented in this report is based on data collected during the site inspection and survey, review of pertinent regulations, requirements, guidelines and commonly followed industry standards, and information provided by the Beaverton School District, their clients, agents, and representatives.

The work has been conducted in an objective and unbiased manner and in accordance with generally accepted professional practice for this type of work. TRC believes the data and analysis to be accurate and relevant, but cannot accept responsibility for the accuracy or completeness of available documentation or possible withholding of information by other parties.



This asbestos survey report is designed to aid the property owner, architect, construction manager, general contractor, and asbestos abatement contractor in locating potential ACMs. This report is not intended for, and may not be utilized as, a bidding document or as an abatement project specification document.

If you have any questions, or need any further clarification regarding this report, please do not hesitate to contact Mr. Ron Landolt at (503) 407-0734.

Sincerely,  
**TRC Environmental Corporation**



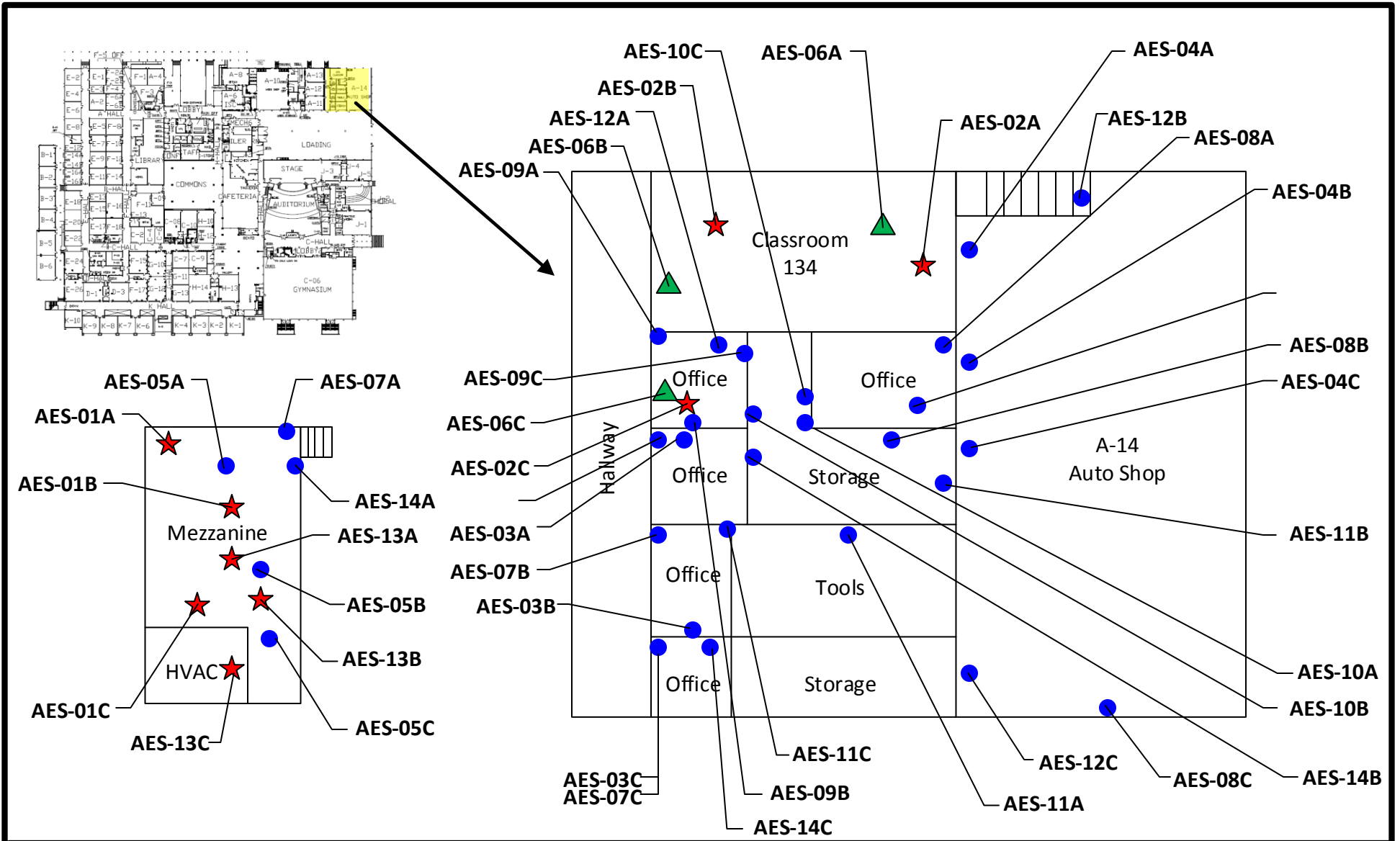
Matthew Cuda  
Project Manager






Ron Landolt, CAC  
NW Region BSI Practice Manager



## **Appendix A – Figure(s)**



LEGEND	
	Non-Asbestos Sample Location
	Asbestos-Containing Sample Location
	OSHA Regulated Sample Location

HAZARDOUS MATERIALS SURVEY REPORT SAMPLE LOCATION DIAGRAM	
ALOHA HIGH SCHOOL 18550 SW KINNAMAN ROAD BEAVERTON, OREGON 97007	
TRC Project No.: 301549.0001	Figure: 1
Drawn by: MC	Reviewed by: RAL
Date: 4/19/18	



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 Milwaukie, Oregon 97222  
 Phone: (503) 387-3251 Fax: (503) 908-1318

## **Appendix B – Laboratory Analytical Data Sheets**

# EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044  
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-001 AHS-01A	MAIN SHOP MEZZANINE	LAYER 1 12"x12" Floor Tile, Brown w/ White Streaks	Yes	Chrysotile 2%	Carbonates Quartz Binder/Filler 98%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 94%
0199971-002 AHS-01B	MAIN SHOP MEZZANINE	LAYER 1 12"x12" Floor Tile, Brown w/ White Streaks	Yes	Chrysotile 2%	Carbonates Quartz Binder/Filler 98%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 94%
0199971-003 AHS-01C	MAIN SHOP MEZZANINE	LAYER 1 12"x12" Floor Tile, Brown w/ White Streaks	Yes	Chrysotile 2%	Carbonates Quartz Binder/Filler 98%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber 1% Carbonates Quartz Gypsum Binder/Filler 94%

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Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-004 AHS-02A	RM 134	LAYER 1 12"x12" Floor Tile, Lt. Brown/ Tan & Brown Streaks	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 94%
0199971-005 AHS-02B	RM 134	LAYER 1 12"x12" Floor Tile, Lt. Brown/ Tan & Brown Streaks	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber 1% Carbonates Quartz Gypsum Binder/Filler 94%
0199971-006 AHS-02C	OFFICE A-14	LAYER 1 12"x12" Floor Tile, Lt. Brown/ Tan & Brown Streaks	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
		LAYER 2 Glue, Black	Yes	Chrysotile 5%	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 94%

# EMC LABS, INC.

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

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Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-007 AHS-03A	STORAGE A-15	LAYER 1 12"x12" Floor Tile, Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Yellow	No	None Detected	Cellulose Fiber <1% Quartz Gypsum Binder/Filler 99%
0199971-008 AHS-03B	PANTRY A-16	LAYER 1 12"x12" Floor Tile, Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Yellow	No	None Detected	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-009 AHS-03C	OFFICE A-17	LAYER 1 12"x12" Floor Tile, Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Yellow	No	None Detected	Cellulose Fiber 1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-010 AHS-04A	MAIN SHOP AREA	1x4 Drop-in Ceiling Tile w/ Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber 85% Carbonates Quartz Gypsum Binder/Filler 15%

# EMC LABS, INC.

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Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-011 AHS-04B	MAIN SHOP AREA	1x4 Drop-in Ceiling Tile w/ Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber Carbonates Quartz Gypsum Binder/Filler	85%    15%
0199971-012 AHS-04C	MAIN SHOP AREA	1x4 Drop-in Ceiling Tile w/ Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber Carbonates Quartz Gypsum Binder/Filler	85%    15%
0199971-013 AHS-05A	MAIN SHOP MEZZANINE	2x4 Ceiling Tile w/ Fissure and Pinholes, White/ Beige	No	None Detected	Cellulose Fiber Mineral Wool Carbonates Quartz Gypsum Perlite Binder/Filler	60% 20%    20%
0199971-014 AHS-05B	MAIN SHOP MEZZANINE	2x4 Ceiling Tile w/ Fissure and Pinholes, White/ Beige	No	None Detected	Cellulose Fiber Mineral Wool Carbonates Quartz Gypsum Perlite Binder/Filler	65% 15%    20%
0199971-015 AHS-05C	MAIN SHOP MEZZANINE	2x4 Ceiling Tile w/ Fissure and Pinholes, White/ Beige	No	None Detected	Cellulose Fiber Mineral Wool Carbonates Quartz Gypsum Perlite Binder/Filler	60% 20%    20%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-016 AHS-06A	RM 134	LAYER 1 1x1 Ceiling Tile Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber	85%
					Carbonates Gypsum Binder/Filler	15%
		LAYER 2 Glue, Dk. Brown	Yes	Tremolite <1%	Talc Non-Fibrous Tremolite	2% 2%
					Carbonates Quartz Gypsum Binder/Filler	95%
0199971-017 AHS-06B	RM 134	LAYER 1 1x1 Ceiling Tile Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber	85%
					Carbonates Gypsum Binder/Filler	15%
		LAYER 2 Glue, Dk. Brown	Yes	Tremolite <1%	Talc Non-Fibrous Tremolite	2% 2%
					Carbonates Quartz Gypsum Binder/Filler	95%
0199971-018 AHS-06C	OFFICE A-14	LAYER 1 1x1 Ceiling Tile Fissure and Pinholes, White/ Lt. Brown	No	None Detected	Cellulose Fiber	85%
					Carbonates Gypsum Binder/Filler	15%
		LAYER 2 Glue, Dk. Brown	Yes	Tremolite <1%	Talc Non-Fibrous Tremolite Cellulose Fiber	2% 2% 1%
					Carbonates Quartz Gypsum Binder/Filler	94%



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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-019 AHS-07A	MAIN SHOP MEZZANINE	LAYER 1 Cove Base, Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber 1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-020 AHS-07B	OFFICE A-16	LAYER 1 Cove Base, Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-021 AHS-07C	OFFICE A-17	LAYER 1 Cove Base, Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 99%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-022 AHS-08A	SHOP OFFICE	LAYER 1 Cove Base, Blue	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber Carbonates Quartz Gypsum Binder/Filler 99%
0199971-023 AHS-08B	SHOP STORAGE	LAYER 1 Cove Base, Blue	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Wollastonite Carbonates Quartz Gypsum Binder/Filler 96%
0199971-024 AHS-08C	MAIN SHOP	LAYER 1 Cove Base, Blue	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber Carbonates Quartz Gypsum Binder/Filler 99%

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**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0199971-025 AHS-09A	OFFICE A-14	LAYER 1 Cove Base, Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber 1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-026 AHS-09B	OFFICE A-14	LAYER 1 Cove Base, Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 99%
0199971-027 AHS-09C	OFFICE A-14	LAYER 1 Cove Base, Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Glue, Dk. Brown	No	None Detected	Cellulose Fiber <1% Carbonates Quartz Gypsum Binder/Filler 99%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-028 AHS-10A	MAIN SHOP STORAGE/RESTRM	LAYER 1 Ceramic Tile Grout, White	No	None Detected	Cellulose Fiber	<1%
		LAYER 2 Ceramic Tile Grout, Off White	No	None Detected	Carbonates Quartz Gypsum Binder/Filler	99%
0199971-029 AHS-10B	MAIN SHOP STORAGE/RESTRM	LAYER 1 Ceramic Tile Grout, White	No	None Detected	Cellulose Fiber	<1%
		LAYER 2 Ceramic Tile Grout, Gray	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler	100%
0199971-030 AHS-10C	MAIN SHOP STORAGE/RESTRM	LAYER 1 Ceramic Tile Grout, White	No	None Detected	Cellulose Fiber	<1%
		LAYER 2 Ceramic Tile Grout, Gray	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler	99%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-031 AHS-11A	SHOP TOOL RM	LAYER 1 Gypsum Board, White/ Brown	No	None Detected	Cellulose Fiber Gypsum Mica Quartz Carbonates	12%    88%
		LAYER 2 Joint Compound/ Paint, White	No	None Detected	Cellulose Fiber Carbonates Quartz Binder/Filler	1%   99%
0199971-032 AHS-11B	SHOP STORAGE/RESTRM	LAYER 1 Gypsum Board, White/ Brown	No	None Detected	Cellulose Fiber Gypsum Mica Quartz Carbonates	12%    88%
		LAYER 2 Joint Compound, White/ Off White	No	None Detected	Carbonates Mica Quartz Perlite Binder/Filler	    100%
0199971-033 AHS-11C	PANTRY A-16	LAYER 1 Gypsum Board, White/ Brown	No	None Detected	Cellulose Fiber Gypsum Mica Quartz Carbonates	12%    88%
		LAYER 2 Joint Compound/ Paint, White	No	None Detected	Cellulose Fiber Carbonates Quartz Binder/Filler	<1%   99%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-034 AHS-12A	OFFICE A-14	Concrete, Gray	No	None Detected	Cellulose Fiber Quartz Gypsum Mica Carbonates Binder/Filler	<1%     99%
0199971-035 AHS-12B	MAIN SHOP STAIRS	Concrete, Gray	No	None Detected	Cellulose Fiber Quartz Gypsum Mica Carbonates Binder/Filler	<1%     99%
0199971-036 AHS-12C	MAIN SHOP NEAR ENTRY	Concrete, Gray	No	None Detected	Cellulose Fiber Quartz Gypsum Mica Carbonates Binder/Filler	1%     99%
0199971-037 AHS-13A	ABOVE CEILING SYSTEM	Duct Seam Tape, Off White/ Silver	No	None Detected	Fibrous Glass Aluminum Carbonates Binder/Filler	10%   90%
0199971-038 AHS-13B	ABOVE CEILING SYSTEM	Duct Seam Tape, Beige	Yes	Chrysotile 10%	Fibrous Glass Cellulose Fiber Carbonates Gypsum Binder/Filler	45% 5%   40%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0199971-039 AHS-13C	HVAC RM	LAYER 1 Duct Seam Tape, Off White/ Silver	No	None Detected	Fibrous Glass	10%
		LAYER 2 Duct Seam Tape, Beige	Yes	Chrysotile 15%	Aluminum Carbonates Binder/Filler	90%
					Fibrous Glass	35%
					Gypsum Binder/Filler	50%
0199971-040 AHS-14A	MAIN SHOP MEZZANINE	CMU Grout, Lt. Gray	No	None Detected	Cellulose Fiber	<1%
					Quartz Gypsum Mica Carbonates Binder/Filler	99%
0199971-041 AHS-14B	STORAGE RM	CMU Grout, Lt. Gray	No	None Detected	Cellulose Fiber	<1%
					Quartz Gypsum Mica Carbonates Binder/Filler	99%
0199971-042 AHS-14C	OFFICE A-17	CMU Grout, Lt. Gray	No	None Detected	Cellulose Fiber	1%
					Quartz Gypsum Mica Carbonates Binder/Filler	99%

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Laboratory Report  
**0199971**

## Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	03/28/2018
	PORTLAND OR 97086	Date Analyzed:	04/02/2018
Collected:	03/27/2018	Date Reported:	04/02/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	MATT CUDA
		Collected By:	

Lab ID	Sample	Layer Name /	Asbestos	Asbestos Type	Non-Asbestos
Client ID	Location	Sample Description	Detected	(%)	Constituents



Analyst - Octavio Gavarreteayestas



Signatory - Lab Director - Kurt Kettler

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicated or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.



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Laboratory Report  
**0200196**

## Bulk Asbestos Analysis by Polarized Light Microscopy

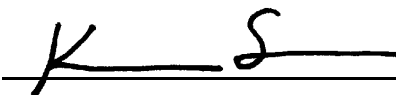
NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	301549
Address:	13370 SE MEADOWPARK DRIVE	Date Received:	04/03/2018
	PORTLAND OR 97086	Date Analyzed:	04/05/2018
Collected:	03/27/2018	Date Reported:	04/05/2018
Project Name:	ALOHA H.S. AUTO TECH REMODEL	EPA Method:	EPA 600/R-93/116
Address:	POINT COUNT VIA EMC LAB #199971	Submitted By:	MATT CUDA
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0200196-001 AHS-06A	RM 134	Ceiling Tile Glue, Brown	Yes	Tremolite 0.4%	Non-Fibrous Tremolite 1.1% Talc 1.5% Gypsum Quartz Carbonates Binder/Filler 97.0%
<b>400 Pt. POINT COUNT</b>					
0200196-002 AHS-06B	RM 134	Ceiling Tile Glue, Brown	Yes	Tremolite 0.2%	Non-Fibrous Tremolite 1.6% Talc 0.9% Gypsum Quartz Carbonates Binder/Filler 97.3%
<b>400 Pt. POINT COUNT</b>					
0200196-003 AHS-06C	OFFICE A-14	Ceiling Tile Glue, Brown	Yes	Tremolite 0.7%	Non-Fibrous Tremolite 1.8% Talc 1.3% Gypsum Quartz Carbonates Binder/Filler 96.2%
<b>400 Pt. POINT COUNT</b>					



Analyst - Kurt Kettler



Signatory - Lab Manager - Ken Scheske

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicated or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

## **Appendix C – Inspector Certification(s)**

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# ***The Environmental Institute***

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## *Matthew Cuda*

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Social Security Number - XXX-XX-8274

TRC Solutions - 4105 SE International Way, Suite 505 - Milwaukie, Oregon 97222

*Has completed coursework and satisfactorily passed  
an examination that meets all criteria required for  
EPA/AHERA/ASHARA (TSCA Title II) Approved Reccreditation*

### *Asbestos in Buildings: Inspector Refresher*

*February 2, 2018*

Course Date

*16657*

Certificate Number

*February 2, 2018*

Examination Date

*February 1, 2019*

Expiration Date



*Thomas G. Laubenthal*

Thomas G. Laubenthal - Principal Instructor

*Rachel G. McCain*

Rachel G. McCain - Exam Administrator

*David W. Hogue*

David W. Hogue - Training Manager

(Approved by the ABIH Certification Maintenance Committee for 1/2 CM point - Approval #11-577)

(Florida Provider Registration Number FL49-0001342 - Course #FL49-0002805)

TEI - 1841 West Oak Parkway, Suite F - Marietta, Georgia 30062 - (770) 427-3600 - [www.tei-atl.com](http://www.tei-atl.com)