ASBESTOS ABATEMENT CONTRACTOR BID DOCUMENT AND SPECIFICATIONS

Highland Park Middle School
HVAC Upgrade Project

7000 SW Wilson Avenue
Beaverton, OR 97008

Prepared for:

Beaverton School District

16550 SW Merlo Road
Beaverton, Oregon 97006

Submitted: March 21, 2019

Prepared By:

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

TRC Project Number: **332367**

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BID FORM

1. Base Bid: Bid due date will be announced at the Job Walk

The undersigned, having examined the proposed contract documents titled: Asbestos Abatement Contractor Bid Document and Specifications for 7000 SW Wilson Avenue in Beaverton, Oregon 97008 (Project Site), dated March 21, 2019, and having visited the site and examined the conditions affecting the work, hereby proposes and agrees to furnish all labor, materials, equipment, permits, insurance, appliances and to perform operations necessary to complete the work as required by said proposed contract documents, for that portion of the work identified in Scope of Work as "Base Bid" for the stipulated sum of:

_____**DOLLARS ($**_____**_____**)

To be completed in _____working days (8 hr. shifts).

Unit Abatement Costs: Removal as ACM and disposal as applicable by regulations:

Material	**Unit**	**Unit Cost**
Gypsum Board Wall/Ceiling Materials	Square Foot	$/sq. ft.:
Lab Countertop	Square Foot	$/sq. ft.:
Cove Base Glue	Linear Foot	$/ln. ft.:
Mastic associated with Floor Tile	Square Foot	$/sq. ft.:
Vinyl Floor Tile and Mastic	Square Foot	$/sq. ft.:
Thermal System Pipe Insulation (Elbows)	Each	$/ each:
Thermal System Pipe Insulation (Runs)	Linear Foot	$/ln. ft.:
Window Glazing	Linear Foot	$/ln. ft.:
Mobilization Cost Associated with Follow-up Abatement Services	Mobilization	$/Mob

BIDDER

by_____

Address_____

_____

Contractor License_____

License Type_____

Type of business entity:

_____

Individual partners or individuals of the firm:

_____
_____
_____

President of Corporation_____
Secretary of Corporation_____
Corporation is organized under laws of the State of _____
Bid dated this _____day of _____, 2018.

END OF BID FORM

ASBESTOS CONTAINING MATERIALS ABATEMENT SUMMARY OF WORK

The Work includes the abatement of Asbestos Containing Materials (ACM) at 7000 SW Wilson Avenue, Beaverton, Oregon in order to prepare the site for renovation. The scope of work includes abatement and proper disposal of the asbestos containing 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 required by applicable regulations, of the following friable and non-friable asbestos containing materials identified in the Supplemental Asbestos and Lead Paint Survey report prepared by TRC and dated March 21, 2019. The asbestos-containing materials to be abated and their general location(s) are as follows:

Asbestos Containing Materials

Description	Material Location(s)	Friable / non-Friable	Approximate Quantity
Gypsum Board & Joint Compound Walls and Ceilings	Throughout Renovation Area – See Figures	Friable	2,200 SF
Lab Countertop	Lab Classrooms in Each wing	Non-Friable	108 SF
Vinyl Floor Tile and Mastic	Under and around HVAC Units	Non-Friable	480 SF
Pipe Insulation and Elbows	Behind HVAC Units, Within Wall/Ceiling Cavities, Mechanical Areas & HVAC Units – See Figures	Friable	800 LF
Duct Insulation & Mastic	Mechanical Areas	Friable	600 SF
Cove Base Glue – OSHA Regulated	Throughout w/ Wall & Floor Removal	Non-Friable	620 LF

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 Highland Park Middle School located at 7000 SW Wilson Avenue in Beaverton, Oregon 97008 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	Approximate Quantity
Gypsum Board & Joint Compound Walls and Ceilings	Throughout Renovation Area – See Figures	Friable	2,200 SF
Lab Countertop	Lab Classrooms in Each wing	Non-Friable	108 SF
Vinyl Floor Tile and Mastic	Under and around HVAC Units	Non-Friable	480 SF
Pipe Insulation and Elbows	Behind HVAC Units, Within Wall/Ceiling Cavities, Mechanical Areas & HVAC Units – See Figures	Friable	800 LF
Duct Insulation & Mastic	Mechanical Areas	Friable	600 SF
Cove Base Glue – OSHA Regulated	Throughout w/ Wall & Floor Removal	Non-Friable	620 LF

Please refer to Appendix A, Limited Supplemental Asbestos and Lead Paint Survey Report dated, March 21, 2019, 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. These include the following:

      - Asbestos/Pollution Liability - $1,000,000;
      - Auto Liability - $1,000,000 per each vehicle on site;
      - Workman's Compensation and Employers Liability - $500,000 per accident;
      - Commercial General Liability - $1,000,000 per occurrence with $2,000,000 general aggregate per project
      - True Umbrella Policy - $5,000,000

   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

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

- PIPE INSULATION AND DUCT INSULATION ABATEMENT
- COUNTERTOP ABATEMENT
- FLOOR TILE AND MASTIC WITH WALL ABATEMENT
- GYPSUM BOARD AND JOINT COMPOUND WALL / CEILING MATERIAL ABATEMENT

FIGURE NUMBER 1

ASBESTOS ABATEMENT MATERIAL LOCATION MAP

Highland Park Middle School
7000 SW Wilson Avenue
Beaverton, Oregon 97008

4105 SE International Way
Suite 505
Milwaukie, OR 97222
C: 503-407-0734
F: 503-762-6882

DATE	March 2019
PROJECT NO.	33287
DRAWN BY	SC
CHECKED BY	MC
CHECKED BY	RL

APPENDIX A

LIMITED SUPPLEMEMTAL ASBESTOS AND LEAD PAINT SURVEY REPORT
Highland Park Middle School
7000 SW Wilson Avenue
Beaverton, Oregon 97008
Dated: March 21, 2019

LIMITED SUPPLEMENTAL ASBESTOS AND LEAD PAINT SURVEY REPORT

Highland Park Middle School

7000 SW Wilson Avenue
Beaverton, OR 97008

Prepared for:

Beaverton School District
16550 SW Merlo Road
Beaverton, OR 97006

Inspection Dates: March 6, 2019
Report Prepared: March 21, 2019

Prepared By:

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

TRC Project Number: 332367

TABLE OF CONTENTS

Appendices

EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) was contracted by the Beaverton School District to conduct a supplemental asbestos and lead paint survey, including collection of bulk asbestos samples, laboratory analysis, and preparation of a report for Highland Park Middle School located at 7000 SW Wilson Avenue in Beaverton, Oregon 97008. Mr. Matt Cuda, AHERA accredited building inspector and Mr. Ron Landolt, lead risk assessor, performed the survey on March 6th, 2019. 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:

- Black Lab Countertops
- Gypsum Wallboard/ Joint Compound (Previously Sampled)
- Vinyl Floor Tile (Previously Sampled)
- Boiler Door Insulation (Previously Sampled)
- Hard Fittings on Fiberglass Pipe Insulation (Previously Sampled)
- Mag Block Insulation (Previously Sampled)
- Mag Pipe Insulation (Previously Sampled)
- Exterior Window Caulk (Previously Sampled)
- Cove Base Mastic (Previously Sampled)
- Mastic (Splash Guards) (Previously Sampled)
- Window Glazing Compound (Previously Sampled)
- Ceramic Tile Mastic, Brown (Previously Sampled)
- Ceramic Tile Grout, White (Previously Sampled)
- Pipe Insulation (Previously Sampled)
- Duct Felt Tape (Previously Sampled)
- Air Cell Duct Insulation (Previously Sampled)

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

- Brown Cove Base Glue

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.

LEAD PAINT/GLAZING MATERIAL SUMMARY

Lead-based paint (LBP) is defined by the United States Department of House and Urban Development (HUD) as any paint, varnish, stain, or other applied coating that has one mg/cm^2 or more of lead or 0.5% by weight (5,000 micrograms per gram [µg/g] or 5,000 parts of lead per million [ppm]). The United States' Consumer Product Safety Commission (CPSC) banned lead paint in 1977 in residential properties and public buildings (16 Code of Federal Regulations 1303). According the Oregon Occupational Safety and Health Division's (OR OSHA) Program Directive, Lead: Exposure in Construction, "For all occupational exposure to lead occurring in the course of construction work, the standard (*1926.62*) does not specify a minimum amount or concentration of lead that triggers a determination that lead is present and the potential for occupational exposure exists. Therefore any paint containing less than one (1) mg/cm^2, but greater than the laboratory or XRF detection limit is considered to be a lead-containing paint.

The paint chip sample collected in conjunction with this survey contained lead in concentrations above the laboratory limits, however it is not considered to be a lead-based paint.

Based on applicable federal and state regulations, all identified and/or assumed lead-paints/glazing must be handled and disposed of by trained personnel. In general, demolition contractors are trained to remove, handle and dispose of lead paints/glazing.

INTRODUCTION

A supplemental asbestos and lead paint survey was conducted by TRC at Highland Park Middle School, located at 7000 SW Wilson Avenue in Beaverton, Oregon. It was reported by the client that this limited hazardous materials survey is being conducted in conjunction with their HVAC renovation project. The survey activities were performed on March 6th, 2019, 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 Diagrams in Appendix A.

Mr. Matt Cuda, AHERA accredited building inspector and Mr. Ron Landolt, lead risk assessor, conducted the 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.

Lead-based and Lead-containing Paints

Lead-based paint (LBP) is defined by the United States Department of Housing and Urban Development (HUD) as any paint, varnish, stain, or other applied coating that has one (1) mg/cm^2 or more of lead or 0.5% by weight (5,000 micrograms per gram [µg/g] or 5,000 parts of lead per million [ppm]).

According the Occupational Safety and Health Division's (OSHA) Program Directive, Lead: Exposure in Construction, "For all occupational exposure to lead occurring in the course of construction work, the standard (*1926.62*) does not specify a minimum amount or concentration of lead that triggers a determination that lead is present and the potential for occupational exposure exists. Therefore any paint containing less than one (1) mg/cm^2, but greater than the laboratory detection limit is considered to be a lead-containing paint.

Laboratory services were provided by EMC Labs, Inc., in Phoenix, Arizona, a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory (NVLAP code #101926-0). Paint Chip samples were analyzed by EPA Method 7420.

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
HPMS-01A HPMS-01B HPMS-01C	Gray Duct Seam Mastic	Mechanical Room Above C-16	ND	N/A
HPMS-02A HPMS-02B HPMS-02C	Countertop Glue, Yellow	Throughout C Hallway	ND	N/A
HPMS-03A HPMS-03B HPMS-03C	**Lab Countertop**	**Throughout Lab Classrooms**	**20% Chrysotile**	**2,160 SF**
HPMS-04A HPMS-04B HPMS-04C	**Brown Cove Base and Associated Brown Glue**	**Throughout**	**Cove – ND Glue – <1% Tremolite**	**1,800 LF**

ND = Non-detect SF = Square feet LF = Linear Feet N/A = Not Applicable

Sample No.	Material	Sample Location	Asbestos Content	Approximate Quantity
HPMS-05A HPMS-05B HPMS-05C	Countertop Glue, Yellow	Throughout B Hallway	ND	N/A
HPMS-06A HPMS-06B HPMS-06C	Countertop Glue, Yellow	Throughout A Hallway	ND	N/A

ND = Non-detect SF = Square feet LF = Linear Feet N/A = Not Applicable

Asbestos Containing Materials (ACMs)

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

Material	Approximate Location(s)	Approximate Quantity
Lab Countertop	Throughout Lab Classrooms	**2,160 SF**
Gypsum Wallboard/ Joint Compound	Throughout	Unknown – Prior Report
Vinyl Floor Tile	Classroom 3	Unknown – Prior Report
Boiler Door Insulation	Boiler Room	Unknown – Prior Report
Hard Fittings on Fiberglass Pipe Insulation	Throughout	Unknown – Prior Report
Mag Block Insulation	Boiler Room, Tunnel System	Unknown – Prior Report
Mag Pipe Insulation	Boiler Room, Tunnel System	Unknown – Prior Report
Exterior Window Caulk	C13	Unknown – Prior Report
Cove base Mastic	C13	Unknown – Prior Report
Mastic (Splashguards)	C13	Unknown – Prior Report
Window Glazing Compound	C13	Unknown – Prior Report
Ceramic Tile Mastic	Boys Restroom 3	Unknown – Prior Report
Ceramic Tile Grout, White	Boys Restroom 3	Unknown – Prior Report
Duct Felt Tape	Mechanical Loft	Unknown – Prior Report
Air Cell Duct Insulation	Room B-14	Unknown – Prior Report

OSHA Regulated Materials (<1.0%)

Material	Approximate Location(s)	Approximate Quantity
Brown Cove Base and Associated Brown Glue	Throughout	**1,800 LF**

Non-Detect Materials (ND)

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

Material	Location
Gray Duct Seam Mastic	Mechanical Room Above C-16
Countertop Glue, Yellow	Throughout C Hallway
Countertop Glue, Yellow	Throughout B Hallway
Countertop Glue, Yellow	Throughout A Hallway
Glued- On Ceiling Tiles, 1’ x 1’ random fissures with brown mastic	A Hallway, B Hallway, C Hallway, A10, C13, CR 1, Main Lobby, Music Room,
Hard Fitting Insulation	Attic above workroom
Silver Paint	Boiler Room

Material	Location
Gasket	Boiler Room
End Cap	Boiler Room
Boiler Insulation	Boiler Room
Built-up Roofing (asphaltic)	Cafeteria, Gymnasium, Main Roof
Paneling	Cafeteria
Cove Base Mastic	Classroom 3, Classroom 7, Office A203, Reception
Caulk	Classroom 3 and 4
Miscellaneous Curtain	CR 3 and CR 4
Miscellaneous Grout	CR 3
Lay-in Ceiling Tile	CR 3, Office A203
Settled Dust	Hallway by Kitchen
Fire Brick	Boiler Room
Formica Countertop Glue	C13
Wainscot Mastic	C13
Roof Penetration Sealant	Main Roof Center
Sheet Floor Covering	Reception
Formica	Room B-10
Countertop	Room B-14

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.

LEAD PAINT FINDINGS & RECOMMENDATIONS

The following table presents the suspect paints identified and sampled during this survey as well as all applicable analytical results:

Sample Number	Paint Description	Lead Concentration (wt%)	HUD/OSHA Category
HPMS-P-01	Beige Interior Paint –Boiler Room	0.045%	LCP

HUD/OSHA Categories: LBP = Lead Based Paint LCP = Lead Containing Paint BRL = Below Reporting Limit

The paint chip sample collected in conjunction with this survey contained lead in concentrations above the laboratory limits, however it is not considered to be a lead-based paint.

Based on applicable federal and state regulations, all identified and/or assumed lead-paints/glazing must be handled and disposed of by trained personnel. In general, demolition contractors are trained to remove, handle and dispose of lead paints/glazing which will not typically generate a large amount of additional cost above and beyond the general demolition activities.

RECOMMENDATIONS

All identified asbestos containing materials from this investigation and previous investigations must be removed by a licensed asbestos abatement contractor prior to them being impacted by 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 and lead paint 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.

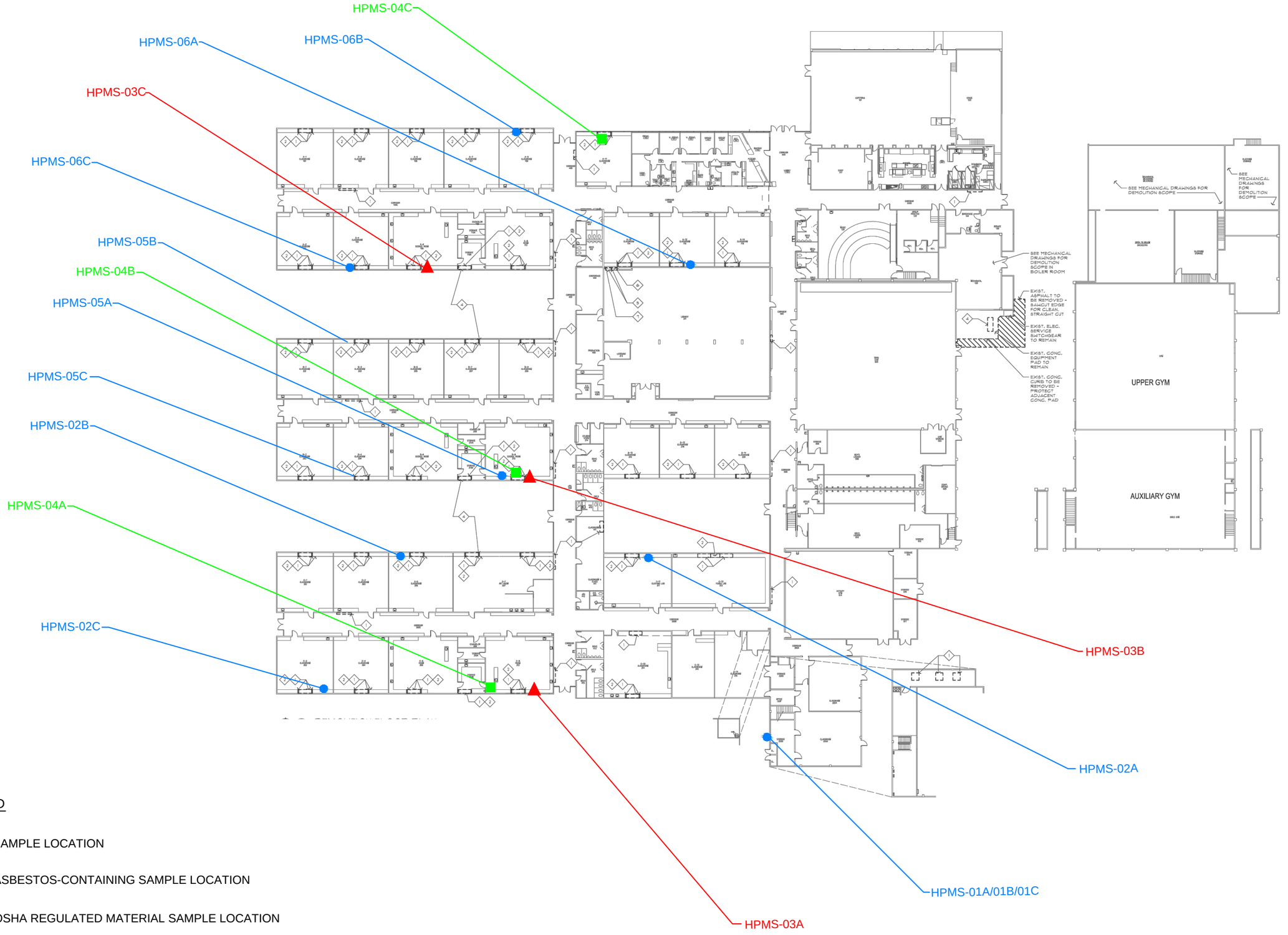
If you have any questions, or need any further clarification regarding this report, please do not hesitate to contact Mr. Ron Landolt at (503) 407-0734.

Sincerely,
TRC Environmental Corporation

Matthew Cuda
Project Manager

Ron Landolt, CAC
NW Region BSI Practice Manager

Appendix A – Figure(s)



LEGEND

- SAMPLE LOCATION
- ASBESTOS-CONTAINING SAMPLE LOCATION
- OSHA REGULATED MATERIAL SAMPLE LOCATION

FIGURE NUMBER 1

SAMPLE LOCATION MAP

Highland Park Middle School
7000 SW Wilson Avenue
Beaverton, Oregon 97008

4105 SE International Way
Suite 505
Milwaukie, OR 97222
C: 503-407-0734
F: 503-762-6882

TRC

DATE	March 2019
PROJECT NO.	332367
DRAWN BY	SC
CHECKED BY	MC
CHECKED BY	RL

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
0216747

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	332367.0001
Address:	4105 SE INTERNATIONAL WAY, STE 505	Date Received:	03/11/2019
	MILWAUKIE OR 97222	Date Analyzed:	03/14/2019
Collected:	03/06/2019	Date Reported:	03/14/2019
Project Name:	BSD-HIGHLAND PARK MIDDLE	EPA Method:	EPA 600/R-93/116
Address:	SCHOOL	Submitted By:	MATT CUDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0216747-001 HPMS-01A	MECHANICAL RM ABOVE C-16	Duct Seam Mastic, Gray	No	None Detected			
						Carbonates Binder/Filler	100%
0216747-002 HPMS-01B	MECHANICAL RM ABOVE C-16	Duct Seam Mastic, Gray	No	None Detected			
						Carbonates Binder/Filler	100%
0216747-003 HPMS-01C	MECHANICAL RM ABOVE C-16	Duct Seam Mastic, Gray	No	None Detected			
						Carbonates Binder/Filler	100%
0216747-004 HPMS-02A	RM C-1	LAYER 1 Counter Top, White/ Tan	No	None Detected		Cellulose Fiber	95%
						Gypsum Binder/Filler	5%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber	<1%
						Gypsum Binder/Filler	99%
0216747-005 HPMS-02B	RM C-5	LAYER 1 Counter Top, White/ Tan	No	None Detected		Cellulose Fiber	95%
						Gypsum Binder/Filler	5%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber	3%
						Gypsum Binder/Filler	97%

EMC LABS, INC.

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Project Name:	BSD-HIGHLAND PARK MIDDLE	EPA Method:	EPA 600/R-93/116
Address:	SCHOOL	Submitted By:	MATT CUDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0216747-006 HPMS-02C	RM C-2	LAYER 1 Counter Top, White/ Tan	No	None Detected		Cellulose Fiber	95%
						Gypsum Binder/Filler	5%
		LAYER 2 Mastic, Yellow	No	None Detected		Cellulose Fiber	10%
						Gypsum Binder/Filler	90%
0216747-007 HPMS-03A	RM C-8	Counter Top, Black	Yes	Chrysotile	20%	Carbonates Quartz Binder/Filler	80%
0216747-008 HPMS-03B	RM B-8	Counter Top, Black	Yes	Chrysotile	20%	Carbonates Quartz Binder/Filler	80%
0216747-009 HPMS-03C	RM A-6	Counter Top, Black	Yes	Chrysotile	20%	Carbonates Quartz Binder/Filler	80%
0216747-010 HPMS-04A	RM C-8	LAYER 1 Cove Base, Brown/ Tan	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Brown	No	None Detected		Gypsum Carbonates Binder/Filler	100%

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Project Name:	BSD-HIGHLAND PARK MIDDLE	EPA Method:	EPA 600/R-93/116
Address:	SCHOOL	Submitted By:	MATT CUDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0216747-011 HPMS-04B	RM B-8	LAYER 1 Cove Base, Brown/ Tan	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Brown	No	None Detected		Cellulose Fiber	<1%
						Carbonates Quartz Binder/Filler	99%
0216747-012 HPMS-04C	RM A-11	LAYER 1 Cove Base, Brown/ Tan	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Brown	Yes	Tremolite	<1%	Talc	2%
						Non-Fibrous Tremolite	2%
						Gypsum Quartz Binder/Filler	95%
0216747-013 HPMS-05A	RM B-8	LAYER 1 Counter Top, Green/ Tan	No	None Detected		Cellulose Fiber	85%
						Gypsum Carbonates Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected		Gypsum Binder/Filler	100%
0216747-014 HPMS-05B	RM B-5	LAYER 1 Counter Top, Green/ Tan	No	None Detected		Cellulose Fiber	85%
						Gypsum Carbonates Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected		Gypsum Binder/Filler	100%

EMC LABS, INC.

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	MILWAUKIE OR 97222	Date Analyzed:	03/14/2019
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Project Name:	BSD-HIGHLAND PARK MIDDLE	EPA Method:	EPA 600/R-93/116
Address:	SCHOOL	Submitted By:	MATT CUDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0216747-015 HPMS-05C	RM B-4	LAYER 1 Counter Top, White/ Tan	No	None Detected	Cellulose Fiber	85%
					Gypsum	
					Carbonates	
					Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber	<1%
					Gypsum	
					Binder/Filler	99%
0216747-016 HPMS-06A	RM A-12	LAYER 1 Counter Top, White/ Tan	No	None Detected	Cellulose Fiber	85%
					Gypsum	
					Carbonates	
					Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber	<1%
					Gypsum	
					Binder/Filler	99%
0216747-017 HPMS-06B	RM A-9	LAYER 1 Counter Top, Green/ Tan	No	None Detected	Cellulose Fiber	85%
					Gypsum	
					Carbonates	
					Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber	<1%
					Gypsum	
					Binder/Filler	99%
0216747-018 HPMS-06C	RM A-4	LAYER 1 Counter Top, White/ Tan	No	None Detected	Cellulose Fiber	85%
					Gypsum	
					Carbonates	
					Binder/Filler	15%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber	<1%
					Gypsum	
					Binder/Filler	99%

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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	TRC SOLUTIONS	Job# / P.O. #:	332367.0001
Address:	4105 SE INTERNATIONAL WAY, STE 505	Date Received:	03/11/2019
	MILWAUKIE OR 97222	Date Analyzed:	03/14/2019
Collected:	03/06/2019	Date Reported:	03/14/2019
Project Name:	BSD-HIGHLAND PARK MIDDLE	EPA Method:	EPA 600/R-93/116
Address:	SCHOOL	Submitted By:	MATT CUDA
		Collected By:	

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

Analyst - Kenneth Scheske

Signatory - Lab Director - Kurt Kettler

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CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 216747
TAT: 3day
Rec'd: MAR 11 P.M.

COMPANY NAME:	TRC SOLUTIONS	BILL TO:	(If Different Location)
	4105 SE International Way, Suite 505	Phoenix, AZ	
	Milwaukie, Oregon 97222		
CONTACT:	Ron Landolt **Scan & Excel**		
Phone/Fax:	(503) 387-3251 / (503) 908-1318		
Email:	rlandolt@trcsolutions.com and mcuda@trcsolutions.com		

Now Accepting: VISA – MASTERCARD **Price Quoted: $_____ / Sample $____ / Layers**

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [4hr rush} [8hr rush} [1-Day] [2-Day] **[3-Day]** [5-Day] [6-10 Day]

****Prior confirmation of turnaround time is required**
****Additional charges for rush analysis (please call marketing department for pricing details)**
****Laboratory analysis may be subject to delay if credit terms are not met**

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] / [Return samples to me at my expense]
(If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: BSD– Highland Park Middle School

P.O. Number: _____ **Project Number:** 332367.0001

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
1	HPMS-01A	3-6-19	See Attached Field Logs	Y N			
				Y N			
				Y N			
				Y N			
				Y N			
18	HPMS-06C			Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: _____

Sample Collector: (Print) Matt Cuda (Signature) [signature] 1935

Relinquished by: [signature] Date/Time: 3-8-19 1600 Received by: Diana Federico Date/Time: 3/11/19

Relinquished by: Diana Federico Date/Time: 3/11/19 Received by: [signature] Date/Time: 3/11/19 1510

Relinquished by: _____ Date/Time _____ Received by: _____ Date/Time: _____

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.

Rev. 09/01/08

TRC

216747

ASBESTOS INSPECTION FIELD DATA SHEET

Project #: 332367
Name: Highland Park M.S. HVAC upgrade
Location: 7000 SW Wilson Avenue, Beaverton, OR

Inspector Name and License #:
Date of Inspection: 3-6-19
Inspector Signature:

Sample #	Material Description	Sample Location	Quantity (SF or LF)	Friability (NF or F)	Damage (ND, D, SD)
HPMS-01A	Gray Duct Seam mastic	Mechanical Rm above C-16			
HPMS-01B		" "			
HPMS-01C		" "			
HPMS-02A	Counter top glue (C Hallway)	Room C-11			
HPMS-02B		Rm C-5			
HPMS-02C		Rm C-2			
HPMS-03A	Lab countertop	Rm C-8			
HPMS-03B		Rm B-8			
HPMS-03C		Rm A-6			
HPMS-04A	Brown Cove base and associated brown glue	Rm C-8			
HPMS-04B		Rm B-8			
HPMS-04C		Rm A-11			
HPMS-05A	Counter top Glue (B Hallway)	Rm B-8			
HPMS-05B		Rm B-5			
HPMS-05C		Rm B-4			
HPMS-06A	Counter top Glue (A Hallway)	Rm A-12			
HPMS-06B		Rm A-9			
HPMS-06C		Rm A-4			

4105 SE International Way, Suite 505, Milwaukie, OR 97222 Phone: (503) 387-3251 Fax: (503) 908-1318

EMC LABS, INC.

9830 South 51st Street, Suite B-109 / PHOENIX, ARIZONA 85044 / 480-940-5294 or 800-362-3373 / FAX 480-893-1726
emclab@emclabs.com

LEAD (Pb) IN PAINT CHIP SAMPLES

EMC SOP METHOD #L01/1 EPA SW-846 METHOD 7420

EMC LAB #:	L74040	**DATE RECEIVED:**	03/11/19
CLIENT:	TRC Solutions	**REPORT DATE:**	03/14/19
		DATE OF ANALYSIS:	03/13/19
CLIENT ADDRESS:	4105 SE International Way, Suite 505 Milwaukie, OR 97222	**P.O. NO.:**	
PROJECT NAME:	BSD – Highland Park Middle School	**PROJECT NO.:**	332367.0001

EMC # L74040-	SAMPLE DATE /19	CLIENT SAMPLE #	DESCRIPTION	REPORTING LIMIT (%Pb by weight)	%Pb BY WEIGHT
1	03/06	HPMS-P-01	Beige Interior Paint – Boiler Room	0.010	0.045

^ = Dilution Factor Changed ***** = Excessive Substrate May Bias Sample Results **BRL** = Below Reportable Limits **#** = Very Small Amount Of Sample Submitted, May Affect Result

This report applies to the standards or procedures identified and to the samples tested only. The test results are not necessarily indicative 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. Unless otherwise noted, all quality control analyses for the samples noted above were within acceptable limits.

Where it is noted that a sample with excessive substrate was submitted for laboratory analysis, such analysis may be biased. The lead content of such sample may, in actuality, be greater than reported. EMC makes no warranty, express or implied, as to the accuracy of the analysis of samples noted to have been submitted with excessive substrate. Resampling is recommended in such situations to verify original laboratory results.

ANALYST: Jason Thompson

QA COORDINATOR: Kurt Kettler

Rev. 11/30/08

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CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 274040
TAT: 3days
Rec'd: 3/11/19

COMPANY NAME: TRC SOLUTIONS
4105 SE International Way, Suite 505
Milwaukie, Oregon 97222
CONTACT: Ron Landolt **Scan & Excel**
Phone/Fax: (503) 387-3251 / (503) 908-1318
Email: rlandolt@trcsolutions.com and mcuda@trcsolutions.com

BILL TO: (If Different Location)
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				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: _____

Sample Collector: (Print) Matt Cuda (Signature) [signature]

Relinquished by: [signature] Date/Time: 3-8-19 1600 Received by: [signature] Date/Time: 3/11/19 930

Relinquished by: [signature] Date/Time: 3/11/19 1045 Received by: [signature] Date/Time: 3/11/19 1035

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

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Rev. 09/01/08

Appendix C – Inspector Certification(s)

The Environmental Institute

Matthew Cuda

Social Security Number - XXX-XX-8274
TRC - 4105 SE International Way #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 Reaccreditation

Asbestos in Buildings: Inspector Refresher

February 1, 2019
Course Date

17225
Certificate Number

February 1,2019
Examination Date

January 31, 2020
Expiration Date

David W. Hogue - Principal Instructor / Training Manager

Rachel G. McCain - Exam Administrator

(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

STATE OF OREGON
CONSTRUCTION CONTRACTORS BOARD
LEAD BASED PAINT RISK ASSESSOR LICENSE

LICENSE NUMBER: 9152079-RA

This document certifies that

RONALD ALAN LANDOLT
4105 SE INTERNATIONAL WAY STE 505
MILWAUKIE OR 97222

is licensed in accordance with Oregon Law as a Lead Based Paint Risk Assessor

License Details:

LICENSE NO.: 9152079-RA
EXPIRATION DATE: 10/24/2019