AHERA
ASBESTOS ASSESSMENT
OAKWOOD SENIOR & JUNIOR HIGH SCHOOL
1200 FAR HILLS AVENUE
OAKWOOD, OHIO 45419

Prepared for:

Oakwood City School District

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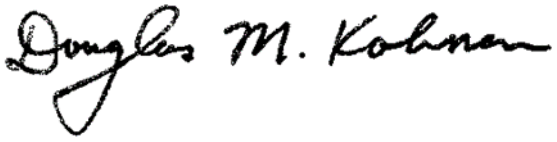
ERAtech ENVIRONMENTAL, INC.
ASBESTOS ASSESSMENT TEAM
OAKWOOD SENIOR & JUNIOR HIGH SCHOOL
1200 FAR HILLS AVENUE
OAKWOOD, OHIO 45419

ERAtech Environmental, Inc. has performed this assessment in accordance with Federal, State and Local guidelines for competent professionals conducting Asbestos Assessment Services. The statements contained in this report are based upon interviews and previously conducted sampling and reports which we believe are true and accurate to the best of our knowledge.

LEAD ASBESTOS ASSESSOR:



Douglas M Kohnen, President

Ohio EPA Certified Asbestos Hazard Evaluation Specialist No. ES33758. Expires on December 19, 2019

Ohio EPA Certified Asbestos Hazard Abatement Project Designer No. PD60679. Expires on September 30, 2019

ASBESTOS ASSESSOR:

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1.0 EXECUTIVE SUMMARY

On behalf of the Oakwood City School District, ERAtech Environmental, Inc. (ERAtech) has performed an Asbestos Assessment of the Oakwood High School & Junior High School building located at 1200 Far Hills Avenue in Oakwood, Ohio. The structure is a 178,238 ft^2 school building which was reportedly built in 1922 with additions in 1922, 1932, 1959, 1969, 1989 & 2003.

This Asbestos Assessment lists all suspect, presumed and confirmed asbestos containing building materials within the subject building. It is not intended for use in lieu of asbestos abatement design specifications. The purpose of this report is to identify areas within the subject structure that may contain asbestos containing materials. Although ERAtech attempted to access all scoped areas of the structure, some hidden areas such as within the interior of walls, ceilings, unknown crawlspaces, pipe chases or tunnels may contain asbestos. If renovation or demolition activities uncover additional suspected asbestos containing materials, all activities should be stopped until the suspected materials can be sampled and appropriate measures can be taken.

Some of the building materials tested were found to be EPA regulated ACM by laboratory analysis, as these materials contained greater than 1.0% asbestos in content. The list of asbestos containing building materials (ACBM or ACM) and presumed asbestos containing materials (PACM) can be found in Table 3.3

In 1989, the Division of Environmental Health, Combined Health District of Montgomery County conducted an Asbestos Assessment and an Asbestos Management Plan for the subject facility. Surveillance and inspection activities have believed to have been followed by staff as required since the preparation of the 1989 plan. In 2002, URS Architects, Engineers & Planners conducted limited sampling for asbestos-containing materials (ACM) in the form of an "Enhanced Environmental Report" for the Ohio School Facilities Commission. As a result of this report, asbestos abatement activities were conducted in 2003 by C2 Diversified Services. In 2018, an updated "Enhanced Environmental Report" was prepared for the Ohio School Facilities Commission. ERAtech has reviewed these reports and has relied upon their findings and our interviews with Oakwood City School employees.

The findings and conclusions stated in this report represent conditions that existed at the subject property at the time this Asbestos Assessment was performed. Additional information concerning this building that was not made available to ERAtech Environmental, Inc. or was outside of the contracted scope of services could modify the stated conclusion.

1.1 Limitations

This assessment included readily accessible areas of the subject structure and adjacent areas. Roofing, electrical boxes, wiring, hidden wall & ceiling cavities and related areas were not assessed.

This report lists suspect and confirmed asbestos containing materials. It is intended for use for determining what asbestos may need to be removed prior to renovation activities. It is not intended for use in lieu of asbestos abatement design specifications if required.

1.2 Warranty

This assessment has been produced under an agreement between ERAtech Environmental, Inc. and the Oakwood City School District. All terms and conditions of that agreement are included in this document by reference. Other than to representatives of the Oakwood City School District, ERAtech Environmental, Inc. disclaims any duty to any other person with respect to the material presented in this document and no person may rely upon this document without advance and express written permission of ERAtech Environmental, Inc. and without such person agreeing to be bound by the limitations, qualifications, terms, conditions, and indemnities set forth in that agreement. The review of the property in question is subject to monetary restraints and scope limitations. Given those limitations and conditions, ERAtech Environmental, Inc. has made what, in its opinion, is a reasonable investigation, using a degree of care and skill ordinarily exercised under similar circumstances by members of this profession.

Disclosure of the contents of this report is at the discretion of the Oakwood City School District. ERAtech Environmental, Inc. requires that all reproductions of this report be made in its entirety to avoid the dissemination of out-of-context information.

2.0 SCOPE OF SERVICES

2.1 General

ERAtech Environmental, Inc. (ERAtech) personnel performed an Asbestos Assessment of the subject structure. Douglas M. Kohnen, President and Keith Moore, Consultant for ERAtech Environmental, Inc. conducted this asbestos assessment of the original buildings and additions on the Oakwood High School and Junior High School (Oakwood High School) property at 1200 Far Hills Avenue in October and November, 2018 and found friable and non- friable asbestos-containing materials (ACM) present in various conditions (see Table 3.3). This assessment was performed in general accordance with the EPA AHERA regulation 40 CFR 763 Subpart E.

2.2 Terms & Definitions

Asbestos – a group of minerals that are divided into two groups – serpentines and amphiboles. The distinction between groups is based upon a mineral's crystalline structure – serpentine minerals have a sheet or layered structure, amphiboles have a chain-like structure.

Chrysotile – the only asbestos mineral in the serpentine group. It is the most commonly used type of asbestos and accounts for ~95% of the asbestos found in buildings in the United States. Chrysotile is commonly known as "white asbestos" based on its natural color.

Amosite, the second most likely type to be found in buildings, is often referred to as "brown asbestos".

Crocidolite – "blue asbestos" is also an amphibole. Crocidolite was used in high temperature insulation applications. The remaining three types in the amphibole group are: **anthophyllite**, **tremolite** and **actinolite**. These varieties are of little commercial value. When found, they are usually contaminants in building materials.

Asbestos-containing materials (ACM) – material that contains more than 1.0% asbestos. This definition is used in nearly all regulations when establishing handling requirements for asbestos materials. Most regulations (EPA, States & local) apply only for ACM. However, some regulations (OSHA) have some requirements for handling materials that have some asbestos, in concentrations less than 1.0%.

Friable and Non-Friable – The U.S EPA distinguished between friable and non-friable forms of ACM. Friable ACM contains greater than 1% asbestos and can be "crumbled, pulverized, or reduced to powder by hand pressure when dry." All other things being equal, friable ACM is thought to release fibers into the air more readily; however, many types of non-friable ACM can also release fibers if disturbed.

Category I Non-Friable ACM – NESHAP classification – Asbestos-containing packing, gaskets, resilient floor covering, and asphalt roofing products, containing more than one percent (1.0 %) asbestos, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Category II Non-Friable ACM – NESHAP classification – Any material, excluding Category I Non-Friable ACM, containing more than one percent (1.0 %) asbestos, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. **Nonfriable asbestos**-cement products such as transite are an example.

Presumed Asbestos Containing Material – Thermal System Insulation (TSI) and surfacing material found in buildings constructed no later than 1980. "PACM" is considered to be ACM unless proven otherwise by appropriate bulk sampling and laboratory analysis.

Regulated Asbestos Containing Material (RACM) – Friable ACM or PACM Category I Non-friable ACM that has become friable or has been or will be subjected to sanding, grinding, cutting or abrading, or Category II Non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

The EPA identifies three categories of ACM used in buildings:

- **Surfacing Materials** – ACM sprayed or troweled on surfaces (walls, ceilings, structural members) for acoustical, decorative, or fireproofing purposes. This includes acoustical plaster and fireproof insulation. OSHA has further defined surfacing materials in a letter of interpretation (dated June 18, 1999) as materials with fibers "loosely bound" in the matrix.
- **Thermal System Insulation (TSI)** – Insulation used to inhibit heat transfer or prevent condensation on pipes, boilers, tanks, ducts, and various other components of hot and cold water systems and heating, ventilation, and air conditioning (HVAC) systems. This includes pipe lagging; pipe wrap; block, batt and blanket insulation; cements and "muds"; and a variety of other products such as gaskets and ropes.
- **Miscellaneous Materials** – Other, largely non-friable products and materials such as floor tile, ceiling tile, roofing felt, concrete pipe, outdoor siding, and fabrics.

2.3 Identification

ERAtech personnel visually assessed all accessible areas in the subject building for the presence of suspect asbestos-containing materials (ACM). Materials with the same color, texture, installation date, and system were considered homogeneous areas. The friability and material type (surfacing, thermal system insulation, miscellaneous, etc.) was determined for each homogeneous area. A listing of these materials is contained in Table 3.1. Bulk sampling locations were determined based upon: 1) Where possible, collection was conducted on a random basis with consideration for safety concerns, occupant issues and material damage, and 2) Convenience of collecting a *representative* sample of the suspected ACM. Bulk samples were collected in accordance with 40 CFR Part 763.86.

2.4 Detection

Samples collected during the assessment were placed into Ziplock ® plastic baggies, labeled, and recorded on a chain of custody and field data form. The samples were submitted to EMSL Analytical, Inc., a laboratory certified under the National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos PLM and bulk (TEM) analysis.

Each sample was analyzed for asbestos content utilizing the PLM estimation technique. The sampling results for each suspect material / homogeneous area can be found in Table 3.1. Complete laboratory chain-of-custody and laboratory documentation is supplied in Appendix B.

2.5 Assessment

Each area was evaluated and divided into functional spaces based on use and physical design. Functional spaces were determined based on the use of the space and/or the occupancy of the space. Examples of functional spaces included structures, rooms, floors, etc.

Each suspected asbestos containing homogeneous material in each functional space was assessed. The assessment included estimations of the quantity, condition and the potential for disturbance. The results of the assessment are listed in Table 3.2.

Condition Criteria

The following criteria were used to determine the condition of the homogeneous areas in each functional space:

General Damage Category	AHERA Damage Category	Criteria
Good	No damage	No damage
Fair	Damage	Up to 10% overall damage Up to 25% localized damage
Poor	Significant damage	Over 10% overall damage Over 25% localized damage

Determining the Potential for Disturbance

In addition to the current condition of the material, the potential for disturbance was determined during the assessment. Three main factors based on EPA guidelines were taken into consideration when determining the potential for disturbance. This includes: 1) potential for contact; 2) Influence of vibration; and 3) potential for air erosion. Each of these factors was ranked as high, moderate or low based on the following criteria:

Potential for Contact with the Material	
High	• Service workers work in the vicinity of the material more than once per week, or • The material is in a public area (e.g. hallway, corridor, auditorium) and is accessible to building occupants
Moderate	• Service workers work in the vicinity of the material once per month to once per week, or • The material is in a room or office and is accessible to building occupants
Low	• Service workers work in the vicinity of the material less than once per month or • The material is visible but not within reach of building occupants

Influence of Vibration	
High	• Loud motors or engines present (e.g. some fan rooms), or • Intrusive noises or easily sensed vibrations (e.g. major airport or highway)
Moderate	• Motors or engines present but not obtrusive (e.g. ducts vibrating but no fan in the area), or • Occasional loud noises (e.g. music room)
Low	• None of the above

Influence of Air Erosion	
High	• High velocity air (e.g. elevator shaft and fan room)
Moderate	• Noticeable movement of air (e.g. air shaft, ventilator air stream)
Low	• None of the above

The overall potential for disturbance was classified based on the individual evaluations for potential for contact, influence of vibration, and potential for air erosion. The individual evaluation with the greatest potential for disturbance determined the overall potential for disturbance for the homogeneous area within the functional space.

Overall Potential for Disturbance	
High	• Any high rating from contact, vibration or air erosion
Moderate	• No high ratings and at least one moderate rating
Low	• No high or moderate ratings

2.6 Hazard Assessment Factors

Based upon the physical assessment, asbestos containing materials are then given a hazard rank with corresponding response options to aid the building owner in prioritizing response actions using the general factors presented on the following pages.

The hazard ranks range from one (least hazardous) to seven (most hazardous). The highest rank (seven) is reserved for materials that are "significantly damaged" (poor condition) or material that is so extensively damaged that it requires immediate corrective action. Hazard ranks four through six are reserved for materials currently in "fair condition" with future disturbance potentials being low, moderate or high (four, five and six). Hazard ranks one through three reflect materials which are showing "good condition" with rank three indicating a high potential for further damage, rank two indicating a moderate potential for damage and rank one indicating that a material has a low potential for being damaged.

The following table summarizes the hazard ranking categories:

ACM Condition	ACM Disturbance Potential	Hazard Rank
Poor	Any	7
Fair	High	6
Fair	Moderate	5
Fair	Low	4
Good	High	3
Good	Moderate	2
Good	Low	1

3.0 FINDINGS

3.1 Materials Containing Asbestos

Similar materials that were suspected of containing asbestos were grouped into homogeneous sampling areas (HA's). An HA contains materials that are uniform in texture, color, date of application, use or system, and appears identical in every other aspect. The HA was identified for the purpose of sampling and determining asbestos content. Table 3.1 includes the HA description, material example location, friable/non-friable (Yes/No) designation, and material type. HA materials found to contain > 1.0 % asbestos (which are regulated by the EPA and OSHA) are listed below in ***BOLD and ITALICIZED*** type.

Table 3.1 Suspect Asbestos by Homogeneous Material Summary Listing

HA #	Material Description	Material Example	Floor	Friable	Type
A1	12" x 12" Ceiling Tile	Hall by 312	3	N	Misc.
B1	Glue Puck	Hall by 312	3	N	Misc.
C1	Soundproofing	Lower level	LL	N	Misc.
D1	**Discarded Insulation**	**Lower level**	**LL**	**Y**	**Misc.**
kk	PyroBar Fire Brick	Family Room	3	N	Misc.
ll	Plaster-Ceiling	IT Offices	1	N	Misc.
mm	**Popcorn Ceiling**	**Cafeteria**	**1**	**N**	**Misc.**
nn	Tile Wall – Grout	Boys Rest Room	1	N	Misc.
A2	Plaster - Ceiling	22 - South Hallway	1	N	Misc.
B2	Plaster - Wall	22 - North Hallway	1	N	Misc.
C2	Plaster - Ceiling	22 - South Hallway	2	N	Misc.
D2	Plaster - Wall	22 - North Hallway	2	N	Misc.
E2	Plaster - Wall	Stage and Auditorium	2	N	Misc.
F2	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	3	N	Misc.
G2	Plaster - Wall	22 - Room 303	3	N	Misc.
H2	Plaster - Ceiling w/ Glue Pucks	32 - Room 136	1	N	Misc.
I2	Plaster - Wall	32 - Room 138	1	N	Misc.
J2	Plaster - Wall	59 - North Hallway	1	N	Misc.
K2	Plaster - Wall	69 - South Hallway	2	N	Misc.
L2	**Soundproofing on Sink - Black**	**22 - Room 206**	**2**	**N**	**Surfacing**
M2	Soundproofing on Sink - Grey	69 - Art Rooms	2	N	Surfacing

*Samples found to contain greater than 1.0% asbestos are shown in **bold** print above*

Table 3.2 lists all samples collected during this assessment.

Table 3.2 Bulk Sample Data Summary

Sample #	Description	Room/Location	HA#	Floor	Friable	Type
AS-01	12” x 12” Ceiling Tile	Hall by 312	A1	3	N	Misc.
AS-01	Glue Puck	Hall by 312	B1	3	N	Misc.
AS-02	12” x 12” Ceiling Tile	Hall by 312	A1	3	N	Misc.
AS-02	Glue Puck	Hall by 312	B1	3	N	Misc.
AS-03	Soundproofing	Lower level	C1	LL	N	Misc.
AS-04	Soundproofing	Lower level	C1	LL	N	Misc.
AS-05	**Discarded Insulation**	**Lower level**	**D1**	**LL**	**Y**	**Misc.**
AS-06	**Discarded Insulation**	**Lower level**	**D1**	**LL**	**Y**	**Misc.**
AS-07	PyroBar Fire Brick	Family Room	kk	3	N	Misc.
AS-08	PyroBar Fire Brick	Family Room	kk	3	N	Misc.
AS-09	Plaster-Ceiling	IT Offices	ll	1	N	Misc.
AS-10	Plaster-Ceiling	IT Offices	ll	1	N	Misc.
AS-11	**Popcorn Ceiling**	**Cafeteria**	**mm**	**1**	**N**	**Misc.**
AS-12	**Popcorn Ceiling**	**Cafeteria**	**mm**	**1**	**N**	**Misc.**
AS-13	**Popcorn Ceiling**	**Cafeteria**	**mm**	**1**	**N**	**Misc.**
AS-14	Tile Wall – Grout	Boys Rest Room	nn	1	N	Misc.
AS-15	Tile Wall - Grout	Girls Rest Room	nn	1	N	Misc.
AS-16	Plaster - Ceiling	22 - North Hallway	A2	1	N	Misc.
AS-17	Plaster - Ceiling	22 - Middle Hallway	A2	1	N	Misc.
AS-18	Plaster - Ceiling	22 - South Hallway	A2	1	N	Misc.
AS-19	Plaster - Wall	22 - North Hallway	B2	1	N	Misc.
AS-20	Plaster - Wall	22 - Middle Hallway	B2	1	N	Misc.
AS-21	Plaster - Wall	22 - South Hallway	B2	1	N	Misc.
AS-22	Plaster - Ceiling	22 - North Hallway	C2	2	N	Misc.
AS-23	Plaster - Ceiling	22 - Middle Hallway	C2	2	N	Misc.
AS-24	Plaster - Ceiling	22 - South Hallway	C2	2	N	Misc.
AS-25	Plaster - Wall	22 - North Hallway	D2	2	N	Misc.
AS-26	Plaster - Wall	22 - Middle Hallway	D2	2	N	Misc.
AS-27	Plaster - Wall	22 - South Hallway	D2	2	N	Misc.
AS-28	Plaster - Wall	Stage and Auditorium	E2	2	N	Misc.
AS-29	Plaster - Wall	Stage and Auditorium	E2	2	N	Misc.
AS-30	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F2	3	N	Misc.
AS-31	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F2	3	N	Misc.
AS-32	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F2	3	N	Misc.
AS-33	Plaster - Wall	22 - Janitorial Closet	G2	3	N	Misc.
AS-34	Plaster - Wall	22 - Janitorial Closet	G2	3	N	Misc.
AS-35	Plaster - Wall	22 - Room 303	G2	3	N	Misc.
AS-36	Plaster - Ceiling w/ Glue Pucks	32 - Room 136	H2	1	N	Misc.
AS-37	Plaster - Ceiling w/ Glue Pucks	32 - Room 138	H2	1	N	Misc.
AS-38	Plaster - Ceiling w/ Glue Pucks	32 - Room 138	H2	1	N	Misc.
AS-39	Plaster - Wall	32 - Room 136	I2	1	N	Misc.
AS-40	Plaster - Wall	32 - Room 138	I2	1	N	Misc.
AS-41	Plaster - Wall	32 - Room 138	I2	1	N	Misc.
AS-42	Plaster - Wall	59 - North Hallway	J2	1	N	Misc.
AS-43	Plaster - Wall	59 - Middle Hallway	J2	1	N	Misc.
AS-44	Plaster - Wall	59 - South Hallway	J2	1	N	Misc.
AS-45	Plaster - Wall	69 - North Hallway	K2	2	N	Misc.

Sample #	Description	Room/Location	HA#	Floor	Friable	Type
AS-46	Plaster - Wall	69 - Middle Hallway	K2	2	N	Misc.
AS-47	Plaster - Wall	69 - South Hallway	K2	2	N	Misc.
AS-48	**Soundproofing on Sink - Black**	**22 - Room 206**	**L2**	**2**	**N**	**Surfacing**
AS-49	**Soundproofing on Sink - Black**	**69 - Room 217**	**L2**	**2**	**N**	**Surfacing**
AS-50	**Soundproofing on Sink - Black**	**69 - Room 217**	**L2**	**2**	**N**	**Surfacing**
AS-51	Soundproofing on Sink - Grey	69 - Art Rooms	M2	2	N	Surfacing
AS-52	Soundproofing on Sink - Grey	69 - Art Rooms	M2	2	N	Surfacing
AS-53	Soundproofing on Sink - Grey	69 - Art Rooms	M2	2	N	Surfacing

*Samples found to contain greater than 1.0% asbestos are shown in **bold** print above*

In addition, the following samples contained "Trace" amounts of asbestos below 1.0% in content. These materials are Not considered asbestos containing by the EPA definition. Therefore an Ohio EPA Licensed Asbestos Abatement Contractor is not required to do the removal of these materials. However; trace amounts of asbestos in building materials are still regulated by OSHA. The following samples contained trace amounts: AS-9 Base Coat Plaster Ceiling, AS-10 Base Coat Plaster Ceiling, AS-16 Base Coat Ceiling Plaster, AS-17 Base Coat Ceiling Plaster, AS-18 Base Coat Ceiling Plaster, AS-19 Base Coat Wall Plaster, AS-20 Base Coat Wall Plaster, AS-21 Base Coat Wall Plaster, AS-22 Base Coat Ceiling Plaster, AS-23 Base Coat Ceiling Plaster, AS-24 Base Coat Ceiling Plaster, AS-26 Base Coat Wall Plaster, AS-27 Base Coat Wall Plaster and AS-29 Top Base Coat Wall Plaster,

3.2 Locations of Asbestos Containing Materials

The locations of ACM confirmed via bulk analysis within the building and Presumed Asbestos Containing Materials (PACM) are listed in Table 3.3 (Appendix A). This table includes interviews & assessment data from previous asbestos assessments and previous listed Homogenous Materials, Locations, HA# (if identified), Friable?, Type, Condition/Damage Potential, Recommended Response and Hazard Ranking.

4.0 COST ESTIMATES

Cost estimates have been provided in Appendix B

5.0 RECOMMENDATIONS

The EPA requires that friable ACM be removed from buildings prior to major renovation or demolition. Friable materials are those that can be crumbled, pulverized, or otherwise broken up by using hand or finger pressure when dry. The EPA defines friable ACM as any friable material containing more than one percent (1%) asbestos.

The EPA does not presently regulate typically non-friable materials until they become friable or dust is created. It is recommended that all non-friable building materials such as mastics and floor tiles be removed to facilitate renovation projects. These materials should otherwise be managed in place until demolition occurs.

Non-friable ACM can become friable over time through deterioration or when disturbed, such as during maintenance or removal operations. This can present a potential health hazard to employees. Accordingly, it is recommended that non-friable ACM be removed as part of scheduled demolition or renovation projects.

In consideration of the complex regulatory environment concerning the handling and removal of ACM, the following general recommendations also apply:

- Based upon the known quantities of friable and non-friable ACM, the building owner will need to monitor all areas where asbestos has been determined to be present. This includes periodic surveillance (every 6 months) and re-inspections every 3 years

- Sampling of presumed asbestos containing materials should be continued as time and resources permit.

- Determination of more accurate quantities of asbestos containing materials as time and resources permit.

- All asbestos-containing materials (ACM), friable and non-friable, should ultimately be removed from District owned or managed buildings, preferably in conjunction with scheduled major renovation.

- Damaged or deteriorated ACM, especially if friable, should be repaired or removed as soon as possible.

- All regulated ACM may be handled only by qualified and EPA accredited asbestos abatement companies.

- All ACM in District buildings should be protected, managed in place and left undisturbed to the maximum extent possible until removed.

- AHERA regulations require that all maintenance and custodial staff and other persons who will work in areas where they may come into contact with ACM receive two hours of AHERA accredited asbestos awareness training, be advised of the hazardous nature of asbestos and be cautioned to have only qualified, properly equipped persons work with ACM. In this regard, specific operation and maintenance practices should be followed for each building where ACM is located.

- Stringent precautions should be taken to insure that ACM is not introduced into the school buildings during renovations.

APPENDIX A
COMPREHENSIVE ASBESTOS-CONTAINING MATERIAL SUMMARY

Table 3.3 Location & Assessment of ACM & PACM Comprehensive Summary Table

Material Description	Location	Quantity	HA#	Friable	Type	Condition/ Potential	Response	Hazard Rank *
Original Building – 1922								
Pipe Insulation	*Auditorium Fan Room*	*15 LF*	*A01*	*Yes*	*TSI*	*Poor/Any*	*Repair/ O&M*	*7*
Pipe Insulation	*Band Practice Room (Rm 212)*	*40 LF*	*A02*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Stockroom*	*46 LF*	*A03*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Basement Pipe Chase & Hidden*	*700 LF*	*A04*	*Yes*	*TSI*	*Poor/Any*	*Repair/ O&M*	*7*
Pipe Insulation	*Girls Locker Room*	*60 LF*	*A05*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Sr High Fan Room*	*91 LF*	*A06*	*Yes*	*TSI*	*Poor/Any*	*Repair/ O&M*	*7*
Pipe Insulation	*Technology Office (former Teacher Lounge, Xerox Room – above ceiling)*	*55 LF*	*A07*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Rms 103-106, typing storage, Rm 105 1.5"x40', 1.25"x70'*	*55 LF*	*A08*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Hall*	*240 LF*	*A09*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Rm 205-above ceiling*	*24 LF*	*A10*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Boys Restroom*	*15 LF*	*A11*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Pipe Insulation	*Rm 310-Attic Chase Entrance*	*160 LF*	*A12*	*No*	*TSI*	*Fair/Low*	*O&M*	*4*
Pipe Insulation	*Walls & Ceiling*	*1600 LF*	*PACM*	*Unk*	*TSI*	*Unk.*	*O&M*	
Mud Joints/Fittings	*Girls Gym Fan Room, Auditorium Storage*	*31 Fittings*	*B01*	*No*	*TSI*	*Good/Mod*	*O&M*	*2*
Mud Joints/Fittings	*Crawl Space/Tunnel*	*20 Fittings*	*PACM*	*No*	*TSI*	*Poor/Any*	*Repair/ O&M*	*7*
Mud Joints/Fittings	*Hidden*	*344 Fittings*	*PACM*	*Unk*	*TSI*	*Unk*	*O&M*	
Sprayed-on Acoustical Ceiling Surfacing	*Cafeteria*	*2,756 SF*	*F01*	*No*	*Surface*	*Good/Low*	*O&M*	*1*
Window Glazing	*Maintenance Office-Boiler Room*	*1*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Sprayed-on Ceiling Surfacing	*Auditorium Entrance (Far west end)*	*144 SF*	*F02*	*No*	*Surface*	*Good/Low*	*O&M*	*1*
Flexible Duct Connection		*5*	*PACM*	*No*	*TSI.*	*Good/Low*	*O&M*	*1*
Asbestos Cement Board		*20*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Fire Door	*Mechanical Areas*	*10*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Carpet Mastic		*800*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Sink Undercoating	*Rooms 206 & 217*	*8*	*L*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Discarded Insulation	*Lower Level Fresh Air Duct*	*<2 SF*	*D1*	*Yes*	*TSI*	*Poor/Any*	*Remove*	*7*
1922 Auditorium								
Pipe Insulation	*Hidden*	*150 LF*	*PACM*	*Unk*	*TSI*	*Unk*	*O&M*	

KEY HAZARD RANK*1=Good Condition/Low Potential for Disturbance, 2=Good/Moderate Potential for Disturbance, 3= Good/High Potential for Disturbance, 4=Fair/Low Potential for Disturbance, 5=Fair/Moderate Potential for Disturbance, 6=Fair/High Potential for Disturbance and 7=Poor/Any Potential for Disturbance

Material Description	Location	Quantity	HA#	Friable	Type	Condition/ Potential	Response	Hazard Rank *
Electric Cord Insulation		*500 LF*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Fire Door	*Throughout*	*7*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Window Glazing	*South Wall*	*9*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Carpet Mastic	*Throughout*	*4600*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Original 1932								
Pipe Insulation	*Gym Chase, Southeast, Northeast, Northwest*	*150 LF*	*H01 (P01)*	*Yes*	*TSI*	*Fair/Mod*	*O&M*	*5*
Pipe Insulation	*Gym Chase Southwest*	*50 LF*	*H02 (P02)*	*Yes*	*TSI*	*Fair/Mod*	*O&M*	*5*
Pipe Insulation	*Forced Air Shaft*	*75 LF*	*H05*	*Yes*	*TSI*	*Fair/Mod*	*O&M*	*5*
Pipe Insulation	*Jr High Tunnel*	*2,025 LF*	*H06*	*Yes*	*TSI*	*Fair/Mod*	*O&M*	*5*
Pipe Insulation	*Hidden in walls/Ceiling*	*800 LF*	*PACM*	*Unk*	*TSI*	*Unk*	*O&M*	
Mud on Joints/Fittings	*Air Supply Shaft*	*6 Fittings*	*I02*	*No*	*TSI*	*Fair/Mod*	*O&M*	*5*
Mud on Joints/Fittings		*59 Fittings*	*PACM*	*No*	*TSI*	*Fair/Mod*	*O&M*	*5*
Mud on Joints/Fittings	*Jr. High Tunnel*	*720 Fittings*	*PACM*	*No*	*TSI*	*Fair/Mod*	*O&M*	*5*
Boiler Dismantling		*2*	*PACM*	*No*	*TSI*	*Good/Low*	*O&M*	*1*
Flexible Duct Connection		*10*	*PACM*	*No*	*TSI*	*Good/Low*	*O&M*	*1*
Fire Doors	*Throughout*	*22*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Carpet Mastic	*Throughout*	*11100*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
1959 Science								
Pipe Insulation(Hidden)	*Walls & Ceilings*	*630 LF*	*PACM*	*No*	*TSI*	*Unk*	*O&M*	
Laboratory Table/Counter Top	*Throughout*	*160*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Transite	*Rooms 112, 113 Hoods*	*140 SF*	*M01*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Fire Doors	*Throughout*	*17*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
1969 Addition								
Pipe Insulation(Hidden)	*Walls & Ceiling*	*440 LF*	*PACM*	*Unk*	*TSI*	*Unk*	*O&M*	
Flexible Duct Connection	*HVAC Utility Room*	*1*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Fire Doors	*Throughout*	*5*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*
Carpet Mastic		*1200 SF*	*PACM*	*No*	*Misc.*	*Good/Low*	*O&M*	*1*

Material Types: TSI=Thermal System Insulation, Surface=Surfacing, Misc.= Miscellaneous Unk.=Unknown
SF=Square Feet LF=Lineal Feet Ftngs=Fittings

Please note that Property Owner/Operators are required to mail or hand deliver at least ten working days before demolition or renovation begins, the Ohio EPA Notification of Demolition and Renovation form (except in the case of emergency demolitions and emergency renovations).

KEY HAZARD RANK*1=Good Condition/Low Potential for Disturbance, 2=Good/Moderate Potential for Disturbance, 3= Good/High Potential for Disturbance, 4=Fair/Low Potential for Disturbance, 5=Fair/Moderate Potential for Disturbance, 6=Fair/High Potential for Disturbance and 7=Poor/Any Potential for Disturbance

APPENDIX B
CHAIN-OF-CUSTODY & LABORATORY DOCUMENTATION

OrderID: 041834491

041834491

ERAtech Environmental, Inc.

1-888-4-MOLD-HELP

Chain of Custody
Asbestos

Lab Address:
EMSL Analytical
Cinnaminson, NJ

ERAtech Environmental, Inc.	Bill to: _X_Same ____Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
3508 Wilmington Pike	
Kettering, Ohio	45429
Report To : Douglas M. Kohnen, AHES	Telephone #: (937) 859-8998 or (937) 478-3598
Email Address to kmoore, cplumby, vsowash & dkohnen@eratechenv.com	Fax #: (937) 859-9132 P.O. 18-[redacted] 9929
Project Number/Name: 18-[redacted] 9929, Oakwood HS/Jr. HS	Please Provide Results: ___Fax _X_Email ___Fax
U.S. State Samples Taken: Ohio	Date Samples Collected: 11/19/18 Monday

Turnaround Time (TAT) Options* - Please Check

___3 Hour _X_ 6 Hour ___24 Hour ___48 Hour ___72 Hour ___96 Hour ___1 Week ___2 Week

*Analysis completed in accordance with ERAtech's Terms and Conditions

Test Codes & Special Instructions

X EPA 600/R-93/116 (PLM) □ 400 Point Count (400PT) □ Phase Contrast (PCM)	□ Transmission Electron (TEM) □ Flame AA -%by Weight (LBP)	X If [redacted] & PLM Result = trace but < 3.0% then run 400PT on a 6 hr TAT (PLM+)	□ If a NOB (floor tile & caulking) analyzed by PLM, and asbestos is not detected, then analyze by TEM on a ___hr TAT (PLM-NOB)	□ If Drywall/JC PLM Result = > 1.0% but < 3.0% then run 400PT on the COMPOSITE on a __hr TAT (PLM+C)

Special Instructions: X Stop 1st Positive per HA#

Name of Sampler: Douglas M. Kohnen, AHES, APD

Signature of Sampler: Douglas M. Kohnen

Sample #	Material Description	Room/Location	HA#	Floor	Test Code	Friable	Type	Photo/Notes
AS-1	12"x12" Ceiling Tile + DK Brown Glue pucks	Hall by 312	A	B	3	PLM	NO	Misc.
AS-2	12"x12" Ceiling Tile + DK Brown Glue pucks	Hall by 312	A	B	3	PLM	NO	Misc.
AS-3	Sound proofing ON Fresh Air Tunnel - left side ceiling	Lower Level	C	LL	PLM	NO	Misc.	
AS-4	Sound proofing ON Fresh Air Tunnel - Right Side	Lower level	C	LL	PLM	NO	Misc.	
AS-5	Discarded Insulation on I/S Fresh Air Room	Lower level	D	LL	PLM	yes	Misc.	
AS-6	Discarded Insulation - I/S Fresh Air Return	Lower level	D	LL	PLM	yes	Misc.	

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Client Sample # (s):		Total # of Samples:	
Relinquished (Client): Douglas M. Kohnen	Date: 11/19/18	Time: 7:15 PM	
Received (Client): RD EMSL Rd	Date: 11-20-18	Time: 9:35 AM	

Comments: Call Doug on his cellphone (937-478-3598) if there are ANY Questions.

C

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	041834491
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Attention:	Douglas M. Kohnen, MS, AHES, CMC	**Phone:**	(937) 478-3598
	ERAtech Environmental, Inc.	**Fax:**	(937) 859-9132
	3508 Wilmington Pike	**Received Date:**	11/20/2018 9:35 AM
	Kettering, OH 45429	**Analysis Date:**	11/20/2018
		Collected Date:	11/19/2018
Project:	18-9929 / Oakwood HS / Jr HS		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-1-Ceiling Tile *041834491-0001*	Hall by 312 - 12x12 Ceiling Tile - Dk Brown	Gray/White Fibrous Homogeneous	30% Cellulose 50% Min. Wool	20% Non-fibrous (Other)	None Detected
AS-1-Glue *041834491-0001A*	Hall by 312 - Glue Pucks	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-2-Ceiling Tile *041834491-0002*	Hall by 312 - 12x12 Ceiling Tile - Dk Brown	Gray/White Fibrous Homogeneous	30% Cellulose 50% Min. Wool	20% Non-fibrous (Other)	None Detected
AS-2-Glue *041834491-0002A*	Hall by 312 - Glue Pucks	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-3 *041834491-0003*	Lower Level - Soundproofing on Fresh Air Tunnel - Left Side Ceiling	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
AS-4 *041834491-0004*	Lower Level - Soundproofing on Fresh Air Tunnel - Right Side	Brown/White Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
AS-5 *041834491-0005*	Lower Level - Discarded Insulation - I/S Fresh Air Room	White Fibrous Homogeneous		55% Non-fibrous (Other)	45% Chrysotile
AS-6 *041834491-0006*	Lower Level - Discarded Insulation - I/S Fresh Air Return				Positive Stop (Not Analyzed)

Analyst(s)

Alexis Kum (4)

Seri Smith (3)

Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

Initial report from: 11/20/2018 12:18:41

OrderID: 041835051

041835051

ERAtech Environmental, Inc.

Chain of Custody
Asbestos

Lab Address:
EMSL Analytical
Cinnaminson, NJ

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CINNAMINSON, NJ
2018 NOV 28 A 11:02

ERAtech Environmental, Inc.		Bill to: X Same ___ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
3508 Wilmington Pike			
Kettering	**Ohio**	**45429**	
Report To : **Douglas M. Kohnen, CMC**		Telephone #: **(937) 859-8998 or (937) 478-6920**	
Email Results to dkohnen, kmoore, vsowash, cplumby (@eratechenv.com)		Fax #: **(937) 859-9132**	Purchase Order: 18-9929
Project Name/Number: **18-9929 OAKWOOD HS**		Please Provide Results: Email	
U.S. State Samples Taken: **Ohio**		Collected on:	11/27/2018

Turnaround Time (TAT) Options* - Please Check

___3 Hour _X_ 6 Hour ___24 Hour ___48 Hour ___72 Hour ___96 Hour ___1 Week ___2 Week

*Analysis completed in accordance with ERAtech's Terms and Conditions.

Test Codes			
•EPA 600/R-93/116 (PLM)	PLM		

Special Instructions: Stop 1st Positive per HA#

Name of Sampler: Keith A. Moore, AHES

Signature of Sampler: Keith A. Moore

Sample #	Material Description	Room/Location	HA #	Floor	Test Code	Friable	Type	Photo/Notes
AS-7	PyroBar Fire Brick	Family Room	kk	3	PLM	N	Misc.	
AS-8	PyroBar Fire Brick	Family Room	kk	3	PLM	N	Misc.	
AS-9	Plaster - Ceiling	IT Offices	ll	1	PLM	N	Misc.	
AS-10	Plaster - Ceiling	IT Offices	ll	1	PLM	N	Misc.	
AS-11	Popcorn Ceiling	Cafeteria	mm	1	PLM	N	Misc.	
AS-12	Popcorn Ceiling	Cafeteria	mm	1	PLM	N	Misc.	
AS-13	Popcorn Ceiling	Cafeteria	mm	1	PLM	N	Misc.	
AS-14	Tile Wall - Grout	1st Floor Boys Room	nn	1	PLM	N	Misc.	
AS-15	Tile Wall - Grout	1st Floor Girls Room	nn	1	PLM	N	Misc.	

Client Sample # (s):	-	Total # of Samples:	9
Relinquished (Client): Keith A. Moore	Date: 11/27/2018	Time: 6:55 PM	
Received (Client):	Date: 11-24-18	Time: 10:50	

Comments: If found to be between 1.0% and 3.0% asbestos containing, please perform 400 point count on both samples - stop first positive on 6 hour TAT.

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	041835051
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Attn: Douglas M. Kohnen, MS, AHES, CMC
ERAtech Environmental, Inc.
3508 Wilmington Pike
Kettering, OH 45429

Phone:	(937) 859-8998
Fax:	(937) 859-9132
Collected:	11/27/2018
Received:	11/28/2018
Analyzed:	11/29/2018

Proj: 18-9929 / Oakwood HS

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-7 ***Lab Sample ID:*** **041835051-0001**
Sample Description: Family Room/Pyrobar Fire Brick

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Client Sample ID: AS-8 ***Lab Sample ID:*** **041835051-0002**
Sample Description: Family Room/Pyrobar Fire Brick

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Client Sample ID: AS-9-Skim Coat ***Lab Sample ID:*** **041835051-0003**
Sample Description: IT Offices/Plaster-Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Client Sample ID: AS-9-Base Coat ***Lab Sample ID:*** **041835051-0003A**
Sample Description: IT Offices/Plaster-Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	Gray	0%	100%	**<1% Chrysotile**	
400 PLM Pt Ct	11/29/2018	Gray	0%	99.50%	**0.50% Chrysotile**	

Client Sample ID: AS-10-Skim Coat ***Lab Sample ID:*** **041835051-0004**
Sample Description: IT Offices/Plaster-Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Client Sample ID: AS-10-Base Coat ***Lab Sample ID:*** **041835051-0004A**
Sample Description: IT Offices/Plaster-Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	Gray	0%	100%	**<1% Chrysotile**	
400 PLM Pt Ct	11/29/2018	Gray	0%	99.50%	**0.50% Chrysotile**	

Client Sample ID: AS-11 ***Lab Sample ID:*** **041835051-0005**
Sample Description: Cafeteria/Popcorn Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	96%	**4% Chrysotile**	

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	041835051
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-12 ***Lab Sample ID:*** **041835051-0006**

Sample Description: Cafeteria/Popcorn Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	11/28/2018			Positive Stop (Not Analyzed)		

Client Sample ID: AS-13 ***Lab Sample ID:*** **041835051-0007**

Sample Description: Cafeteria/Popcorn Ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	11/28/2018			Positive Stop (Not Analyzed)		

Client Sample ID: AS-14 ***Lab Sample ID:*** **041835051-0008**

Sample Description: 1st Floor Boys' Room/Tile Wall - Grout

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Client Sample ID: AS-15 ***Lab Sample ID:*** **041835051-0009**

Sample Description: 1st Floor Girls' Room/Tile Wall - Grout

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	100%	None Detected	

Analyst(s):

Benjamin Verghese	400 PLM Pt Ct (2)
Christina Maiorana	PLM (4)
Daniel Fricker	PLM (5)

Reviewed and approved by:

Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

Report amended: 11/29/201808:09:06 Replaces initial report from: 11/28/201813:41:27 Reason Code: Client-Additional Analysis

Christy, Sherry 041835051

From: Douglas M. Kohnen <dkohnen@eratechenv.com>
Sent: Thursday, November 29, 2018 4:01 AM
To: EMSL Lab - Cinnaminson Asbestos; Christy, Sherry
Cc: Cindy Plumby; Keith Moore; Vel Sowash
Subject: Re: EMSL report, COC for order(s) 041835051 (041835051 - 18-9929 / Oakwood HS)

Please run point counts on as-9 and as-10 base coats of plaster on a 6 hour TAT. Thanks

On Wed, Nov 28, 2018 at 3:11 PM EMSL (Cinnaminson) <cinnasblab@emsl.com> wrote:

> Report, COC for order(s):
> 041835051 - 18-9929 / Oakwood HS
>
> Please tell us how we are doing.
>
> Click here to fill out our Customer Survey

EMSL Analytical, Inc. | 200 Route 130 North | Cinnaminson, NJ 08077
Phone: 856-858-4800 | Fax: 856-786-5974 | Toll Free: 800-220-3675
Lab Hours: Mon-Friday 7AM-10PM, Saturday 8AM-5PM, Sunday On-Call

Some of the resources EMSL Analytical, Inc. offers to our clients:
LABConnect | Order Products | Client Corner | Training | Additional Resources | Sampling Videos

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Please don't hesitate to call me or the other ERAtech Professionals if you have any questions at (937) 859-8998!

Thanks,
Doug

Douglas M. Kohnen, MS, AHES, AHAPD, CMC
President

ERAtech Environmental, Inc.
3508 Wilmington Pike
Kettering, Ohio 45429
(Office) (937) 859-8998
(Fax) (937) 859-9132
www.eratechenv.com
Certified, Experienced and Insured Environmental Consultants & Trainers

OrderID: 041835806

041835806

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2018 DEC -5 P 12:13

ERAtech Environmental, Inc.

Chain of Custody
Asbestos

Lab Address:
EMSL Analytical
Cinnaminson, NJ

ERAtech Environmental, Inc.		Bill to: X Same ___Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
3508 Wilmington Pike			
Kettering	**Ohio**	**45429**	
Report To : **Douglas M. Kohnen, CMC**		Telephone #: **(937) 859-8998 or (937) 478-6920**	
Email Results to dkohnen, kmoore, bhawkins (@eratechenv.com)		Fax #: **(937) 859-9132**	Purchase Order: 18-9929
Project Name/Number: **18-9929 OAKWOOD HS**		Please Provide Results: Email	
U.S. State Samples Taken: **Ohio**		Collected on:	12/4/2018

Turnaround Time (TAT) Options* - Please Check

___3 Hour _X__6 Hour ___24 Hour ___48 Hour ___72 Hour ___96 Hour ___1 Week ___2 Week

*Analysis completed in accordance with ERAtech's Terms and Conditions.

Test Codes

•EPA 600/R-93/116 (PLM)	PLM		

Special Instructions: Stop 1st Positive per HA#

Name of Sampler: Keith A. Moore, AHES

Signature of Sampler: Keith A. Moore

Sample #	Material Description	Room/Location	HA#	Floor	Test Code	Friable	Type	Photo/Notes
AS-16	Plaster - Ceiling	22 - North Hallway	A	1	PLM	N	Misc.	
AS-17	Plaster - Ceiling	22 - Middle Hallway	A	1	PLM	N	Misc.	
AS-18	Plaster - Ceiling	22 - South Hallway	A	1	PLM	N	Misc.	
AS-19	Plaster - Wall	22 - North Hallway	B	1	PLM	N	Misc.	
AS-20	Plaster - Wall	22 - Middle Hallway	B	1	PLM	N	Misc.	
AS-21	Plaster - Wall	22 - South Hallway	B	1	PLM	N	Misc.	
AS-22	Plaster - Ceiling	22 - North Hallway	C	2	PLM	N	Misc.	
AS-23	Plaster - Ceiling	22 - Middle Hallway	C	2	PLM	N	Misc.	
AS-24	Plaster - Ceiling	22 - South Hallway	C	2	PLM	N	Misc.	
AS-25	Plaster - Wall	22 - North Hallway	D	2	PLM	N	Misc.	
AS-26	Plaster - Wall	22 - Middle Hallway	D	2	PLM	N	Misc.	
AS-27	Plaster - Wall	22 - South Hallway	D	2	PLM	N	Misc.	
AS-28	Plaster - Wall	Stage and Auditorium	E	2	PLM	N	Misc.	
AS-29	Plaster - Wall	Stage and Auditorium	E	2	PLM	N	Misc.	
AS-30	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F	3	PLM	N	Misc.	
AS-31	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F	3	PLM	N	Misc.	
AS-32	Plaster - Ceiling w/ Glue Pucks	22 - Room 303	F	3	PLM	N	Misc.	
AS-33	Plaster - Wall	22 - Janitorial Closet	G	3	PLM	N	Misc.	
AS-34	Plaster - Wall	22 - Janitorial Closet	G	3	PLM	N	Misc.	
AS-35	Plaster - Wall	22 - Room 303	G	3	PLM	N	Misc.	
AS-36	Plaster - Ceiling w/ Glue Pucks	32 - Room 136	H	1	PLM	N	Misc.	
AS-37	Plaster - Ceiling w/ Glue Pucks	32 - Room 138	H	1	PLM	N	Misc.	
AS-38	Plaster - Ceiling w/ Glue Pucks	32 - Room 138	H	1	PLM	N	Misc.	
AS-39	Plaster - Wall	32 - Room 136	I	1	PLM	N	Misc.	
AS-40	Plaster - Wall	32 - Room 138	I	1	PLM	N	Misc.	
AS-41	Plaster - Wall	32 - Room 138	I	1	PLM	N	Misc.	
AS-42	Plaster - Wall	59 - North Hallway	J	1	PLM	N	Misc.	
AS-43	Plaster - Wall	59 - Middle Hallway	J	1	PLM	N	Misc.	
AS-44	Plaster - Wall	59 - South Hallway	J	1	PLM	N	Misc.	
AS-45	Plaster - Wall	69 - North Hallway	K	2	PLM	N	Misc.	
AS-46	Plaster - Wall	69 - Middle Hallway	K	2	PLM	N	Misc.	

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OrderID: 041835806

041835806

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AS-47	Plaster - Wall	69 - South Hallway	K	2	PLM	N	Misc.	
AS-48	Soundproofing on Sink - Black	22 - Room 206	L	2	PLM	N	Surfacing	
AS-49	Soundproofing on Sink - Black	69 - Room 217	L	2	PLM	N	Surfacing	
AS-50	Soundproofing on Sink - Black	69 - Room 217	L	2	PLM	N	Surfacing	
AS-51	Soundproofing on Sink - Grey	69 - Art Rooms	M	2	PLM	N	Surfacing	
AS-52	Soundproofing on Sink - Grey	69 - Art Rooms	M	2	PLM	N	Surfacing	
AS-53	Soundproofing on Sink - Grey	69 - Art Rooms	M	2	PLM	N	Surfacing	

Client Sample # (s):	-	Total # of Samples:	38
Relinquished (Client): Keith A. Moore	Date: 12/4/2018	Time: 6:55 PM	
Received (Client):	Date: 12-5-18	Time: 12:10 p	

Comments: If found to be less than 1.0% to 3.0% asbestos containing, please perform 400 point count on both samples - stop first positive on 6 hour TAT

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EMSL Order ID:	041835806
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Attn: Douglas M. Kohnen, MS, AHES, CMC
ERAtech Environmental, Inc.
3508 Wilmington Pike
Kettering, OH 45429

Phone:	(937) 859-8998
Fax:	(937) 859-9132
Collected:	12/ 4/2018
Received:	12/05/2018
Analyzed:	12/05/2018

Proj: 18-9929 Oakwood HS

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-16-Texture **Lab Sample ID:** **041835806-0001**
Sample Description: 22 - North Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-16-Skim Coat **Lab Sample ID:** **041835806-0001A**
Sample Description: 22 - North Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-16-Base Coat **Lab Sample ID:** **041835806-0001B**
Sample Description: 22 - North Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.50%	**0.50% Chrysotile**	

Client Sample ID: AS-17-Texture **Lab Sample ID:** **041835806-0002**
Sample Description: 22 - Middle Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-17-Skim Coat **Lab Sample ID:** **041835806-0002A**
Sample Description: 22 - Middle Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-17-Base Coat **Lab Sample ID:** **041835806-0002B**
Sample Description: 22 - Middle Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	1.00%	98.50%	**0.50% Chrysotile**	

Client Sample ID: AS-18-Texture **Lab Sample ID:** **041835806-0003**
Sample Description: 22 - South Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan/White	0.0%	100.0%	None Detected	

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Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-18-Skim Coat **Lab Sample ID:** **041835806-0003A**
Sample Description: 22 - South Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-18-Base Coat **Lab Sample ID:** **041835806-0003B**
Sample Description: 22 - South Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.75%	**0.25% Chrysotile**	

Client Sample ID: AS-19-Texture **Lab Sample ID:** **041835806-0004**
Sample Description: 22 - North Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-19-Skim Coat **Lab Sample ID:** **041835806-0004A**
Sample Description: 22 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-19-Base Coat **Lab Sample ID:** **041835806-0004B**
Sample Description: 22 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.75%	**0.25% Chrysotile**	

Client Sample ID: AS-20-Texture **Lab Sample ID:** **041835806-0005**
Sample Description: 22 - Middle Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-20-Skim Coat **Lab Sample ID:** **041835806-0005A**
Sample Description: 22 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-20-Base Coat **Lab Sample ID:** **041835806-0005B**
Sample Description: 22 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.75%	**0.25% Chrysotile**	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-21-Texture **Lab Sample ID:** **041835806-0006**
Sample Description: 22 - South Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-21-Skim Coat **Lab Sample ID:** **041835806-0006A**
Sample Description: 22 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-21-Base Coat **Lab Sample ID:** **041835806-0006B**
Sample Description: 22 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.75%	**0.25% Chrysotile**	

Client Sample ID: AS-22-Texture **Lab Sample ID:** **041835806-0007**
Sample Description: 22 - North Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-22-Skim Coat **Lab Sample ID:** **041835806-0007A**
Sample Description: 22 - North Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-22-Base Coat **Lab Sample ID:** **041835806-0007B**
Sample Description: 22 - North Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.50%	**0.50% Chrysotile**	

Client Sample ID: AS-22-Glue **Lab Sample ID:** **041835806-0007C**
Sample Description: 22 - North Hallway - Ceiling/Glue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-23-Texture **Lab Sample ID:** **041835806-0008**
Sample Description: 22 - Middle Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-23-Skim Coat **Lab Sample ID:** **041835806-0008A**
Sample Description: 22 - Middle Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-23-Base Coat **Lab Sample ID:** **041835806-0008B**
Sample Description: 22 - Middle Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Brown	0.00%	99.25%	**0.75% Chrysotile**	

Client Sample ID: AS-23-Glue **Lab Sample ID:** **041835806-0008C**
Sample Description: 22 - Middle Hallway - Ceiling/Glue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-24-Texture **Lab Sample ID:** **041835806-0009**
Sample Description: 22 - South Hallway - Ceiling/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-24-Skim Coat **Lab Sample ID:** **041835806-0009A**
Sample Description: 22 - South Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-24-Base Coat **Lab Sample ID:** **041835806-0009B**
Sample Description: 22 - South Hallway - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray	0.0%	100.0%	**<0.25% Chrysotile**	

Client Sample ID: AS-24-Glue **Lab Sample ID:** **041835806-0009C**
Sample Description: 22 - South Hallway - Ceiling/Glue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-25-Texture **Lab Sample ID:** **041835806-0010**
Sample Description: 22 - North Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-25-Skim Coat **Lab Sample ID:** **041835806-0010A**
Sample Description: 22 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-25-Base Coat **Lab Sample ID:** **041835806-0010B**
Sample Description: 22 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown/Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-26-Texture **Lab Sample ID:** **041835806-0011**
Sample Description: 22 - Middle Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-26-Skim Coat **Lab Sample ID:** **041835806-0011A**
Sample Description: 22 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-26-Base Coat **Lab Sample ID:** **041835806-0011B**
Sample Description: 22 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Brown/Gray	0.00%	99.75%	**0.25% Chrysotile**	

Client Sample ID: AS-27-Texture **Lab Sample ID:** **041835806-0012**
Sample Description: 22 - South Hallway - Wall/Texture

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-27-Skim Coat **Lab Sample ID:** **041835806-0012A**
Sample Description: 22 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-27-Base Coat **Lab Sample ID:** **041835806-0012B**
Sample Description: 22 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Brown/Gray	0.00%	99.50%	**0.50% Chrysotile**	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-28-Skim Coat **Lab Sample ID:** **041835806-0013**
Sample Description: Stage and Auditorium - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-28-Base Coat **Lab Sample ID:** **041835806-0013A**
Sample Description: Stage and Auditorium - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown/Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-29-Top Base Coat **Lab Sample ID:** **041835806-0014**
Sample Description: Stage and Auditorium - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Gray/Black	0.00%	99.75%	**0.25% Chrysotile**	

Client Sample ID: AS-29-Skim Coat **Lab Sample ID:** **041835806-0014A**
Sample Description: Stage and Auditorium - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-29-Bottom Base Coat **Lab Sample ID:** **041835806-0014B**
Sample Description: Stage and Auditorium - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown/Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-30-Skim Coat **Lab Sample ID:** **041835806-0015**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-30-Base Coat **Lab Sample ID:** **041835806-0015A**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray/Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-30-Glue **Lab Sample ID:** **041835806-0015B**
Sample Description: 22 - Room 303 - Ceiling/Glue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-31-Skim Coat **Lab Sample ID:** **041835806-0016**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-31-Base Coat **Lab Sample ID:** **041835806-0016A**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray/Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-31-Glue **Lab Sample ID:** **041835806-0016B**
Sample Description: 22 - Room 303 - Ceiling/Glue Pucks

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-32-Skim Coat **Lab Sample ID:** **041835806-0017**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-32-Base Coat **Lab Sample ID:** **041835806-0017A**
Sample Description: 22 - Room 303 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray/Tan	0.0%	100.0%	None Detected	

Client Sample ID: AS-32-Glue **Lab Sample ID:** **041835806-0017B**
Sample Description: 22 - Room 303 - Ceiling/Glue Pucks

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-33-Skim Coat **Lab Sample ID:** **041835806-0018**
Sample Description: 22 - Janitorial Closet - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-33-Base Coat **Lab Sample ID:** **041835806-0018A**
Sample Description: 22 - Janitorial Closet - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-34-Skim Coat **Lab Sample ID:** **041835806-0019**
Sample Description: 22 - Janitorial Closet - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-34-Base Coat **Lab Sample ID:** **041835806-0019A**
Sample Description: 22 - Janitorial Closet - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-35-Skim Coat **Lab Sample ID:** **041835806-0020**
Sample Description: 22 - Room 303 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-35-Base Coat **Lab Sample ID:** **041835806-0020A**
Sample Description: 22 - Room 303 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-36-Skim Coat **Lab Sample ID:** **041835806-0021**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-36-Base Coat **Lab Sample ID:** **041835806-0021A**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-36-Glue **Lab Sample ID:** **041835806-0021B**
Sample Description: 32 - Room 136 - Ceiling/Glue Pucks

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-37-Skim Coat **Lab Sample ID:** **041835806-0022**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

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Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-37-Base Coat **Lab Sample ID:** **041835806-0022A**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-37-Glue **Lab Sample ID:** **041835806-0022B**
Sample Description: 32 - Room 136 - Ceiling/Glue Pucks

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-38-Skim Coat **Lab Sample ID:** **041835806-0023**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-38-Base Coat **Lab Sample ID:** **041835806-0023A**
Sample Description: 32 - Room 136 - Ceiling/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-38-Glue **Lab Sample ID:** **041835806-0023B**
Sample Description: 32 - Room 138 - Ceiling/Glue Pucks

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Brown	0.0%	100.0%	None Detected	

Client Sample ID: AS-39-Skim Coat **Lab Sample ID:** **041835806-0024**
Sample Description: 32 - Room 136 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-39-Base Coat **Lab Sample ID:** **041835806-0024A**
Sample Description: 32 - Room 136 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-40-Skim Coat **Lab Sample ID:** **041835806-0025**
Sample Description: 32 - Room 138 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	041835806
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-40-Base Coat **Lab Sample ID:** **041835806-0025A**
Sample Description: 32 - Room 138 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	2.0%	98.0%	None Detected	

Client Sample ID: AS-41-Skim Coat **Lab Sample ID:** **041835806-0026**
Sample Description: 32 - Room 138 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-41-Base Coat **Lab Sample ID:** **041835806-0026A**
Sample Description: 32 - Room 138 - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-42-Skim Coat **Lab Sample ID:** **041835806-0027**
Sample Description: 59 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-42-Base Coat **Lab Sample ID:** **041835806-0027A**
Sample Description: 59 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-43-Skim Coat **Lab Sample ID:** **041835806-0028**
Sample Description: 59 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-43-Base Coat **Lab Sample ID:** **041835806-0028A**
Sample Description: 59 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-44-Skim Coat **Lab Sample ID:** **041835806-0029**
Sample Description: 59 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

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EMSL Order ID:	041835806
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-44-Base Coat **Lab Sample ID:** **041835806-0029A**
Sample Description: 59 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-45-Skim Coat **Lab Sample ID:** **041835806-0030**
Sample Description: 69 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-45-Base Coat **Lab Sample ID:** **041835806-0030A**
Sample Description: 69 - North Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-46-Skim Coat **Lab Sample ID:** **041835806-0031**
Sample Description: 69 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-46-Base Coat **Lab Sample ID:** **041835806-0031A**
Sample Description: 69 - Middle Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-47-Skim Coat **Lab Sample ID:** **041835806-0032**
Sample Description: 69 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	White	0.0%	100.0%	None Detected	

Client Sample ID: AS-47-Base Coat **Lab Sample ID:** **041835806-0032A**
Sample Description: 69 - South Hallway - Wall/Plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	0.0%	100.0%	None Detected	

Client Sample ID: AS-48 **Lab Sample ID:** **041835806-0033**
Sample Description: 22 - Room 206/Soundproofing on Sink - Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
400 PLM Pt Ct	12/05/2018	Black	0.0%	98.0%	**2.00% Chrysotile**	Point Count performed on NOB material without gravimetric reduction at client request. Asbestos results may be under-reported.

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EMSL Order ID:	041835806
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: AS-49 ***Lab Sample ID:*** **041835806-0034**

Sample Description: 69 - Room 217/Soundproofing on Sink - Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018			Positive Stop (Not Analyzed)		

Client Sample ID: AS-50 ***Lab Sample ID:*** **041835806-0035**

Sample Description: 69 - Room 217/Soundproofing on Sink - Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018			Positive Stop (Not Analyzed)		

Client Sample ID: AS-51 ***Lab Sample ID:*** **041835806-0036**

Sample Description: 69 - Art Rooms/Soundproofing on Sink - Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	12.0%	88.0%	None Detected	

Client Sample ID: AS-52 ***Lab Sample ID:*** **041835806-0037**

Sample Description: 69 - Art Rooms/Soundproofing on Sink - Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	12.0%	88.0%	None Detected	

Client Sample ID: AS-53 ***Lab Sample ID:*** **041835806-0038**

Sample Description: 69 - Art Rooms/Soundproofing on Sink - Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	Gray	10.0%	90.0%	None Detected	

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EMSL Order ID:	041835806
Customer ID:	ERAT50
Customer PO:	18-9929
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Analyst(s):

Adam Gart	PLM (24) 400 PLM Pt Ct (2)
Ian Kulis	PLM (14) 400 PLM Pt Ct (1)
Jonathan Blanfort	PLM (4) 400 PLM Pt Ct (5)
Juli Patel	PLM (15) 400 PLM Pt Ct (2)
Laura Kantor	PLM (10)
Olufunke Akintunde	PLM (10)
Samantha Rundstorm-Cruz	400 PLM Pt Ct (3)

Reviewed and approved by:

Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

Initial report from: 12/05/201815:35:43

APPENDIX C
ASBESTOS ABATEMENT COST ESTIMATES

*Hazardous Building Material Removal Cost Estimate **

Summary Page

Owner: Oakwood City Schools

12/6/2018

Facility: Oakwood High School

				1922 Original	1922 Auditorium	1932 Original
A. Asbestos containing material (ACM) I AFM = asbestos free material						
ACM Found				Estimated Cost	Estimated Cost	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)		$45.00	0.00	0.00	0.00
2.	Breeching Insulation Removal ($10-$20)		$20.00	0.00	0.00	0.00
3.	Tank Insulation Removal ($8-$18)		$18.00	0.00	0.00	0.00
4.	Duct Insulation Removal		$16.00	0.00	0.00	0.00
5.	Pipe Insulation Removal		$30.00	45000.00	0.00	63000.00
6.	Pipe Fitting Insulation Removal		$25.00	9375.00	0.00	18000.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)		$45.00	4500.00	0.00	9000.00
8.	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)		$50.00	1000.00	0.00	3250.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)		$15.00	24000.00	2250.00	12000.00
10	Dismantling of Boiler/Furnace/Incinerator		$2,000.00	0.00	0.00	4000.00
11	Flexible Duct Connection Removal		$100.00	500.00	0.00	1000.00
12	Acoustical Plaster Removal		$12.00	34800.00	0.00	0.00
13	Fireproofing Removal		$30.00	0.00	0.00	0.00
14	Hard Plaster Removal		$10.00	0.00	0.00	0.00
15	Gypsum Board Removal		$8.00	0.00	0.00	0.00
16	Acoustical Panel Tile Ceiling Removal		$3.00	0.00	0.00	0.00
17	Laboratory Table/Counter Top Removal		$150.00	0.00	0.00	0.00
18	Asbestos Cement Board Removal (Transite-like)		$6.00	120.00	0.00	0.00
19	Electric Cord Insulation Removal		$1.00	0.00	500.00	0.00
20	Light (Reflector) Fixture Removal		$75.00	0.00	0.00	0.00
21	Sheet Flooring with Friable Backer Removal		$4.00	0.00	0.00	0.00
22	Fire Door Removal		$100.00	1000.00	700.00	2200.00
23	Door & Window Panel Removal		$100.00	0.00	0.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel		$6.00	0.00	0.00	0.00
25	Soil Removal		$150.00	0.00	0.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)		$5.00	32000.00	3000.00	16000.00
27	Window (Glazing/Putty, or Caulk)		$300.00	300.00	2700.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable		$300.00	0.00	0.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable		$4.00	0.00	0.00	0.00
30	Carpet Mastic Removal		$3.00	2400.00	13800.00	33300.00
31	Carpet Removal (over RFC)		$1.00	14000.00	0.00	0.00
32	Acoustical Tile Mastic Removal *i*		$5.00	0.00	0.00	0.00
33	Sink Undercoating Removal		$100.00	800.00	0.00	0.00
34	Roofing Removal-Friable		$5.00	0.00	0.00	0.00
35	Roofing Removal-Cat 2-Non-Friable		$3.00	0.00	0.00	0.00
36	Other		lump sum	15500.00	0.00	23600.00
37	(Sum of lines 1-35)		**Total Asb.**	**$185,295.00**	**$22,950.00**	**$185,350.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)		**Total Asb.**	**185,295.00**	**22,950.00**	**185,350.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST)					
1		**$0.00**	0.00	0.00	
				0.00	
C. Lead-Based Paint (LBP) - Renovation Only					
1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement	$0.00	5000.00	5000.00	
2.	Special 3rd Party Environmental Consulting Fees	$0.00	5000.00	5000.00	
3.	(Sum of lines 1-2)	**$0.00**	10000.00	10000.00	
D. Fluorescent Lamps & Ballasts Recycling/Incineration					
Area of Building Addition		**Total Cost**			
1		**$0.00**	941.20	1000.00	

E. Other Environmental Hazards/Remarks ☐ None		Reported		
Description		Cost Estimate		
1.		$0.00	0.00	0.00
2.		$0.00	0.00	0.00
3.		$0.00	0.00	0.00
	(Sum of Lines 1-3)	**$0.00**	0.00	0.00
F. Hazardous Building Material Abatement Cost Estimate Summaries				
1.	**(Sum of Lines A36, B4, C3, D1, and E4)**	**$185,295.00**	**33891.20**	**196350.00**
2.	**(Sum of Lines A37, B4, D1, and E4)**	**$185,295.00**	**33891.20**	**196350.00**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

1959 Science	1969 Fitness	1989 Elevator	2003 Addition	Total
Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**108000.00**
0.00	0.00	0.00	0.00	**27375.00**
0.00	0.00	0.00	0.00	**13500.00**
0.00	0.00	0.00	0.00	**4250.00**
9450.00	6600.00	0.00	0.00	**54300.00**
0.00	0.00	0.00	0.00	**4000.00**
0.00	100.00	0.00	0.00	**1600.00**
0.00	0.00	0.00	0.00	**34800.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
24000.00	0.00	0.00	0.00	**24000.00**
840.00	0.00	0.00	0.00	**960.00**
0.00	0.00	0.00	0.00	**500.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
1700.00	500.00	0.00	0.00	**6100.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
12600.00	8800.00	0.00	0.00	**72400.00**
0.00	0.00	0.00	0.00	**3000.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	3600.00	0.00	0.00	**53100.00**
0.00	5320.00	0.00	0.00	**19320.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**800.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
5000.00	5000.00	0.00	0.00	**49100.00**
$53,590.00	**$29,920.00**	**$0.00**	**$0.00**	**$477,105.00**
53,590.00	**29,920.00**	**0.00**	**0.00**	**477,105.00**

0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
				0.00
0.00	0.00	0.00	0.00	**10000.00**
0.00	0.00	0.00	0.00	**10000.00**
0.00	0.00	0.00	0.00	**20000.00**
0.00	0.00	0.00	0.00	**0.00**
				0.00
				0.00
500.00	800.00	55.00	1415.60	**4711.80**
				0.00
				0.00
				0.00
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
0.00	0.00	0.00	0.00	**0.00**
				0.00
				0.00
54090.00	**30720.00**	**55.00**	**1415.60**	**501816.80**
54090.00	30720.00	55.00	1415.60	**501816.80**

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood High School **Building:** 1922 Original High School Building

Size 76,823 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Reported ACM	1500	L Ft.	$30.00	45000.00
6.	Pipe Fitting Insulation Removal	Reported ACM	375	ea	$25.00	9375.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Reported ACM	100	L Ft.	$45.00	4500.00
8.	Pipe Fitting Insul. Rem. (Crawlspace/Tunnel)	Reported ACM	20	ea	$50.00	1000.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Reported ACM	1600	L Ft.	$15.00	24000.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Reported ACM	5	ea	$100.00	500.00
12	Acoustical Plaster Removal	Reported ACM	2900	Ft^2	$12.00	34800.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present (B)	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Reported ACM	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	20	Ft^2	$6.00	120.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft.	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Not Present	10	ea	$100.00	1000.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Reported Non-ACM	6400	Ft^2	$5.00	32000.00
27	Window (Glazing/Putty, or Caulk)	Presumed ACM	1	ea	$300.00	300.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Reported ACM	800	Ft^2	$3.00	2400.00
31	Carpet Removal (over RFC)	Reported ACM	14000	Ft^2	$1.00	14000.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Reported ACM	8	ea	$100.00	800.00
34	Roofing Removal-Friable	Unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other - Presumed Chaulk board Mastic & HVAC Exp Gskt	Presumed			lump sum	15,500.00
37	(Sum of lines 1-35)				**Total Asb. Hazard Abatement Cost for Renovation Work**	**$185,295.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)				**Total Asb. Hazard Abatement Cost for Demolition Work**	**185,295.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age	Product Stored	Size	Est. Rem. Cost
1.						$0.00
2.						$0.00
3.						$0.00
4.	(Sum of lines 1-3)			**Total Cost for Removal of Underground Storage Tanks**		**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement		$5,000.00
2.	Special 3rd Party Environmental Consulting Fees		$5,000.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint**	**$10,000.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition								% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1	(A)		76823	Ft^2				100%	$0.20	**$15,364.60**

E. Other Environmental Hazards/Remarks ☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$210,659.60**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$210,659.60**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

(A) Does not include Metal Hylite lamps & ballasts in gym (Classrooms, Restrooms & Halls upgraded to T8 Lamps)

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood High School **Building:** 1922 Auditorium

Size 4,706 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Not Present	0	L Ft.	$30.00	0.00
6.	Pipe Fitting Insulation Removal	Not Present	0	ea	$25.00	0.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	L Ft.	$45.00	0.00
8.	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Not Present	0	ea	$50.00	0.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present	150	L Ft.	$15.00	2250.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Not Present	0	ea	$100.00	0.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present (B)	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	0	Ft^2	$6.00	0.00
19	Electric Cord Insulation Removal	Reported ACM	500	L Ft.	$1.00	500.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Reported ACM	7	ea	$100.00	700.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Reported Non-ACM	600	Ft^2	$5.00	3000.00
27	Window (Glazing/Putty, or Caulk)	Reported ACM	9	ea	$300.00	2700.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Reported ACM	4600	Ft^2	$3.00	13800.00
31	Carpet Removal (over RFC)	Not Present	0	Ft^2	$1.00	0.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Not Present	0	ea	$100.00	0.00
34	Roofing Removal-Friable	Unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other	N/A			lump sum	0.00
37	(Sum of lines 1-35)				**Total Asb. Hazard Abatement Cost for Renovation Work**	**$22,950.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)				**Total Asb. Hazard Abatement Cost for Demolition Work**	**22,950.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)				**Total Cost for Removal of Underground Storage Tanks**		**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement		$5,000.00
2.	Special 3rd Party Environmental Consulting Fees		$5,000.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint**	**$10,000.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition							% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1	(A)		4706	Ft^2			100%	$0.20	**$941.20**

E. Other Environmental Hazards/Remarks ☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$33,891.20**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$33,891.20**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

(A) Cafeteria contains T12 bulbs that need upgraded

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood Junior High School **Building:** 1932 Junior High Addition

Size 44,332 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Reported Present	2100	L Ft	$30.00	63000.00
6.	Pipe Fitting Insulation Removal	Reported Present	720	ea	$25.00	18000.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Reported Present	200	L Ft	$45.00	9000.00
8.	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Reported Present	65	ea	$50.00	3250.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Reported Present	800	L Ft	$15.00	12000.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	2	ea	$2,000.00	4000.00
11	Flexible Duct Connection Removal	Reported Present	10	ea	$100.00	1000.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	0	Ft^2	$6.00	0.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Reported Present	22	ea	$100.00	2200.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present	3200	Ft^2	$5.00	16000.00
27	Window (Glazing/Putty, or Caulk)	Not Present	0	ea	$300.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Reported Present	11100	Ft^2	$3.00	33300.00
31	Carpet Removal (over RFC)	Not Present	0	Ft^2	$1.00	0.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Not Present	0	ea	$100.00	0.00
34	Roofing Removal-Friable	Unknown - Needs sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs sampled	0	Ft^2	$3.00	0.00
36	Other - AHU Removal (15K) Elec Switchgear (2K)CkBd Mastic (6.6k)				lump sum	23,600.00
37	(Sum of lines 1-35)	**Total Asb. Hazard Abatement Cost for Renovation Work**				**$185,350.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	**Total Asb. Hazard Abatement Cost for Demolition Work**				**185,350.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)	**Total Cost for Removal of Underground Storage Tanks**					**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement		$5,000.00
2.	Special 3rd Party Environmental Consulting Fees		$5,000.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint**	**$10,000.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition							% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1	(A) (C)		5000	Ft^2			100%	$0.20	**$1,000.00**

E. Other Environmental Hazards/Remarks ☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$196,350.00**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$196,350.00**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

(A) Does not include Metal Hylite lamps & ballasts in gym

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

(C) All Classrooms, Restrooms & Hallways reported upgraded with T8 Lamps

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood Junior High School **Building:** 1959 Jr High 1st Floor Science Addition

Size 15,790 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Not Present	0	L Ft.	$30.00	0.00
6.	Pipe Fitting Insulation Removal	Not Present	0	ea	$25.00	0.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	L Ft.	$45.00	0.00
8.	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Not Present	0	ea	$50.00	0.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Reported Present	630	L Ft.	$15.00	9450.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Not Present	0	ea	$100.00	0.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Reported Present	160	ea	$150.00	24000.00
18	Asbestos Cement Board Removal (Transite-like)	Reported Present	140	Ft^2	$6.00	840.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft.	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Not Present	17	ea	$100.00	1700.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present	2520	Ft^2	$5.00	12600.00
27	Window (Glazing/Putty, or Caulk)	Not Present	0	ea	$300.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Not Present	0	Ft^2	$3.00	0.00
31	Carpet Removal (over RFC)	Not Present	0	Ft^2	$1.00	0.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Not Present	0	ea	$100.00	0.00
34	Roofing Removal-Friable	Unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other - Chaulkboard Mastic	Reported			lump sum	5,000.00
37	(Sum of lines 1-35)	**Total Asb. Hazard Abatement Cost for Renovation Work**				**$53,590.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	**Total Asb. Hazard Abatement Cost for Demolition Work**				**53,590.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)	**Total Cost for Removal of Underground Storage Tanks**					**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement	$0.00
2.	Special 3rd Party Environmental Consulting Fees	$0.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint** **$0.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition								% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1			2500	Ft^2				100%	$0.20	**$500.00**

E. Other Environmental Hazards/Remarks
☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$54,090.00**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$54,090.00**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

(A) All Classrooms, Restrooms & Hallways reported upgraded with T8 Lamps

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood Junior High School **Building:** 1969 Jr High Addition

Size 21,881 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Not Present	0	L Ft.	$30.00	0.00
6.	Pipe Fitting Insulation Removal	Not Present	0	ea	$25.00	0.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	L Ft.	$45.00	0.00
8.	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Not Present	0	ea	$50.00	0.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present	440	L Ft.	$15.00	6600.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Not Present	1	ea	$100.00	100.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	0	Ft^2	$6.00	0.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft.	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Not Present	5	ea	$100.00	500.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Reported Non-ACM	1760	Ft^2	$5.00	8800.00
27	Window (Glazing/Putty, or Caulk)	Not Present	0	ea	$300.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Tile reported removed but mastic unknown (2003 rpt)	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Reported Present	1200	Ft^2	$3.00	3600.00
31	Carpet Removal (over RFC)	Reported Present	5320	Ft^2	$1.00	5320.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Non-ACM	0	ea	$100.00	0.00
34	Roofing Removal-Friable	unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other - Chaulkborad Mastic	Presumed			lump sum	5,000.00
37	(Sum of lines 1-35)				**Total Asb. Hazard Abatement Cost for Renovation Work**	**$29,920.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)				**Total Asb. Hazard Abatement Cost for Demolition Work**	**29,920.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)				**Total Cost for Removal of Underground Storage Tanks**		**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement	$0.00
2.	Special 3rd Party Environmental Consulting Fees	$0.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint** **$0.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition								% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1			4000	Ft^2				100%	$0.20	**$800.00**

E. Other Environmental Hazards/Remarks

☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$30,720.00**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$30,720.00**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

Costs to obtain access to suspected mastic (item A29) is unknown

(A) All Classrooms & Hallways reported T8 Lamps (Band room T12 Lamps need upgraded)

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood High School **Building:** 1989 Elevator Corridor Addition

Size 550 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Not Present	0	L Ft.	$30.00	0.00
6.	Pipe Fitting Insulation Removal	Not Present	0	ea	$25.00	0.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	L Ft.	$45.00	0.00
8.	Pipe Fitting Insul. Rem. (Crawlspace/Tunnel)	Not Present	0	ea	$50.00	0.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present	0	L Ft.	$15.00	0.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Not Present	0	ea	$100.00	0.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	0	Ft^2	$6.00	0.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft.	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Not Present	0	ea	$100.00	0.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present	0	Ft^2	$5.00	0.00
27	Window (Glazing/Putty, or Caulk)	Not Present	0	ea	$300.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Not Present	0	Ft^2	$3.00	0.00
31	Carpet Removal (over RFC)	Not Present	0	Ft^2	$1.00	0.00
32	Acoustical Tile Mastic Removal *i*	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Not Present	0	ea	$100.00	0.00
34	Roofing Removal-Friable	Unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other	N/A			lump sum	0.00
37	(Sum of lines 1-35)				**Total Asb. Hazard Abatement Cost for Renovation Work**	**$0.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)				**Total Asb. Hazard Abatement Cost for Demolition Work**	**0.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)				**Total Cost for Removal of Underground Storage Tanks**		**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement		$0.00
2.	Special 3rd Party Environmental Consulting Fees		$0.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint**	**$0.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition							% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1	(A)		275	Ft^2			100%	$0.20	**$55.00**

E. Other Environmental Hazards/Remarks ☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$55.00**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$55.00**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

Post 1980 additions reportedly non-asbestos containing per architect requirements

(A) All Classrooms, Restrooms & Hallways reported upgraded with T8 Lamps

(B) 2002 & 2018 Sampling of Walls & Ceiling reports Non-ACM (< 1.0 % Asbestos)

*Hazardous Building Material Removal Cost Estimate **

Owner: Oakwood City Schools **Date** 12/6/2018

Facility: Oakwood Junior High School **Building:** 2003 Additions

Size 14,156 Ft^2

A. Asbestos containing material (ACM) I AFM = asbestos free material

ACM Found		Status	Quantity	Unit	Unit	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	Not Present	0	Ft^2	$45.00	0.00
2.	Breeching Insulation Removal ($10-$20)	Not Present	0	Ft^2	$20.00	0.00
3.	Tank Insulation Removal ($8-$18)	Not Present	0	Ft^2	$18.00	0.00
4.	Duct Insulation Removal	Not Present	0	Ft^2	$16.00	0.00
5.	Pipe Insulation Removal	Not Present	0	L Ft.	$30.00	0.00
6.	Pipe Fitting Insulation Removal	Not Present	0	ea	$25.00	0.00
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	L Ft.	$45.00	0.00
8.	Pipe Fitting Insul. Rem. (Crawlspace/Tunnel)	Not Present	0	ea	$50.00	0.00
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present	0	L Ft.	$15.00	0.00
10	Dismantling of Boiler/Furnace/Incinerator	Not Present	0	ea	$2,000.00	0.00
11	Flexible Duct Connection Removal	Not Present	0	ea	$100.00	0.00
12	Acoustical Plaster Removal	Not Present	0	Ft^2	$12.00	0.00
13	Fireproofing Removal	Not Present	0	Ft^2	$30.00	0.00
14	Hard Plaster Removal	Not Present	0	Ft^2	$10.00	0.00
15	Gypsum Board Removal	Not Present	0	Ft^2	$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present	0	Ft^2	$3.00	0.00
17	Laboratory Table/Counter Top Removal	Not Present	0	ea	$150.00	0.00
18	Asbestos Cement Board Removal (Transite-like)	Not Present	0	Ft^2	$6.00	0.00
19	Electric Cord Insulation Removal	Not Present	0	L Ft.	$1.00	0.00
20	Light (Reflector) Fixture Removal	Not Present	0	ea	$75.00	0.00
21	Sheet Flooring with Friable Backer Removal	Not Present	0	Ft^2	$4.00	0.00
22	Fire Door Removal	Not Present	0	ea	$100.00	0.00
23	Door & Window Panel Removal	Not Present	0	ea	$100.00	0.00
24	Decontamin. of Crawlspace/Chase/Tunnel	Not Present	0	Ft^2	$6.00	0.00
25	Soil Removal	Not Present	0	cu yd	$150.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present	0	Ft^2	$5.00	0.00
27	Window (Glazing/Putty, or Caulk)	Not Present	0	ea	$300.00	0.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present	0	ea	$4.00	0.00
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present	0	Ft^2	$4.00	0.00
30	Carpet Mastic Removal	Not Present	0	Ft^2	$3.00	0.00
31	Carpet Removal (over RFC)	Not Present	0	Ft^2	$1.00	0.00
32	Acoustical Tile Mastic Removal i	Not Present	0	Ft^2	$5.00	0.00
33	Sink Undercoating Removal	Not Present	0	ea	$100.00	0.00
34	Roofing Removal-Friable	Unknown - Needs Sampled	0	Ft^2	$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Needs Sampled	0	Ft^2	$3.00	0.00
36	Other	N/A			lump sum	0.00
37	(Sum of lines 1-35)				**Total Asb. Hazard Abatement Cost for Renovation Work**	**$0.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)				**Total Asb. Hazard Abatement Cost for Demolition Work**	**0.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

B. Removal of Underground Storage Tanks (UST) ☐ None Reported

Tank No.		Location	Age		Product Stored	Size	Est. Rem. Cost
1.							$0.00
2.							$0.00
3.							$0.00
4.	(Sum of lines 1-3)				**Total Cost for Removal of Underground Storage Tanks**		**$0.00**

C. Lead-Based Paint (LBP) - Renovation Only ☐ Addition Constructed after 1980

1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement		$0.00
2.	Special 3rd Party Environmental Consulting Fees		$0.00
3.	(Sum of lines 1-2)	**Total Cost for Lead-Based Paint**	**$0.00**

D. Fluorescent Lamps & Ballasts Recycling/Incineration ☐ Not Applicable

Area of Building Addition								% w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1	(A)		7078	Ft^2				100%	$0.20	**$1,415.60**

E. Other Environmental Hazards/Remarks ☐ None

Description		Reported Cost Estimate
1.		$0.00
2.		$0.00
3.		$0.00
	Total Cost for Other Environmental Hazards	**$0.00**

F. Hazardous Building Material Abatement Cost Estimate Summaries

1.	**(Sum of Lines A37, B4, C3, D1, and E4)**	**Total Cost for Env. Hazards Work - Renovation**	**$1,415.60**
2.	**(Sum of Lines A38, B4, D1, and E4)**	**Total Cost for Env. Hazards Work - Demolition**	**$1,415.60**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

Post 1980 additions reportedly non-asbestos containing per architect requirements

(A) All Classrooms & Hallways reported T8 Lamps

*Hazardous Building Material Removal Cost Estimate **

Summary Page

Owner: Oakwood City Schools

12/6/2018

Facility: Oakwood High School

				1922 Original	1922 Auditorium	1932 Original	1959 Science	1969 Fitness	1989 Elevator	2003 Addition	Total
A. Asbestos containing material (ACM) | AFM = asbestos free material											
ACM Found			Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost
1.	Boiler/Furnace Insulation Removal ($10-$45/ft2)	$45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
2.	Breeching Insulation Removal ($10-$20)	$20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
3.	Tank Insulation Removal ($8-$18)	$18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4.	Duct Insulation Removal	$16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
5.	Pipe Insulation Removal	$30.00	45000.00	0.00	63000.00	0.00	0.00	0.00	0.00	0.00	**108000.00**
6.	Pipe Fitting Insulation Removal	$25.00	9375.00	0.00	18000.00	0.00	0.00	0.00	0.00	0.00	**27375.00**
7.	Pipe Insulation Removal (Crawlspace/Tunnel)	$45.00	4500.00	0.00	9000.00	0.00	0.00	0.00	0.00	0.00	**13500.00**
8.	Pipe Fitting Insul. Rem. (Crawlspace\Tunnel)	$50.00	1000.00	0.00	3250.00	0.00	0.00	0.00	0.00	0.00	**4250.00**
9	Pipe Insulation Removal (Hidden in Walls/Ceiling)	$15.00	24000.00	2250.00	12000.00	9450.00	6600.00	0.00	0.00	0.00	**54300.00**
10	Dismantling of Boiler/Furnace/Incinerator	$2,000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.00	**4000.00**
11	Flexible Duct Connection Removal	$100.00	500.00	0.00	1000.00	0.00	100.00	0.00	0.00	0.00	**1600.00**
12	Acoustical Plaster Removal	$12.00	34800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**34800.00**
13	Fireproofing Removal	$30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14	Hard Plaster Removal	$10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
15	Gypsum Board Removal	$8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
16	Acoustical Panel Tile Ceiling Removal	$3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
17	Laboratory Table/Counter Top Removal	$150.00	0.00	0.00	0.00	24000.00	0.00	0.00	0.00	0.00	**24000.00**
18	Asbestos Cement Board Removal (Transite-like)	$6.00	120.00	0.00	0.00	840.00	0.00	0.00	0.00	0.00	**960.00**
19	Electric Cord Insulation Removal	$1.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	**500.00**
20	Light (Reflector) Fixture Removal	$75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
21	Sheet Flooring with Friable Backer Removal	$4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22	Fire Door Removal	$100.00	1000.00	700.00	2200.00	1700.00	500.00	0.00	0.00	0.00	**6100.00**
23	Door & Window Panel Removal	$100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
24	Decontamin. of Crawlspace/Chase/Tunnel	$6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25	Soil Removal	$150.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	$5.00	32000.00	3000.00	16000.00	12600.00	8800.00	0.00	0.00	0.00	**72400.00**
27	Window (Glazing/Putty, or Caulk)	$300.00	300.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	**3000.00**
28	Resilient Flooring Removal, Incl. Mastic - Friable	$300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
29	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	$4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
30	Carpet Mastic Removal	$3.00	2400.00	13800.00	33300.00	0.00	3600.00	0.00	0.00	0.00	**53100.00**
31	Carpet Removal (over RFC)	$1.00	14000.00	0.00	0.00	0.00	5320.00	0.00	0.00	0.00	**19320.00**
32	Acoustical Tile Mastic Removal	$5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
33	Sink Undercoating Removal	$100.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**800.00**
34	Roofing Removal-Friable	$5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
35	Roofing Removal-Cat 2-Non-Friable	$3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
36	Other	lump sum	15500.00	0.00	23600.00	5000.00	5000.00	0.00	0.00	0.00	**49100.00**
37	(Sum of lines 1-35)	**Total Asb.**	**$185,295.00**	**$22,950.00**	**$185,350.00**	**$53,590.00**	**$29,920.00**	**$0.00**	**$0.00**	**$0.00**	**$477,105.00**
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	**Total Asb.**	**185,295.00**	**22,950.00**	**185,350.00**	**53,590.00**	**29,920.00**	**0.00**	**0.00**	**0.00**	**477,105.00**

Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.

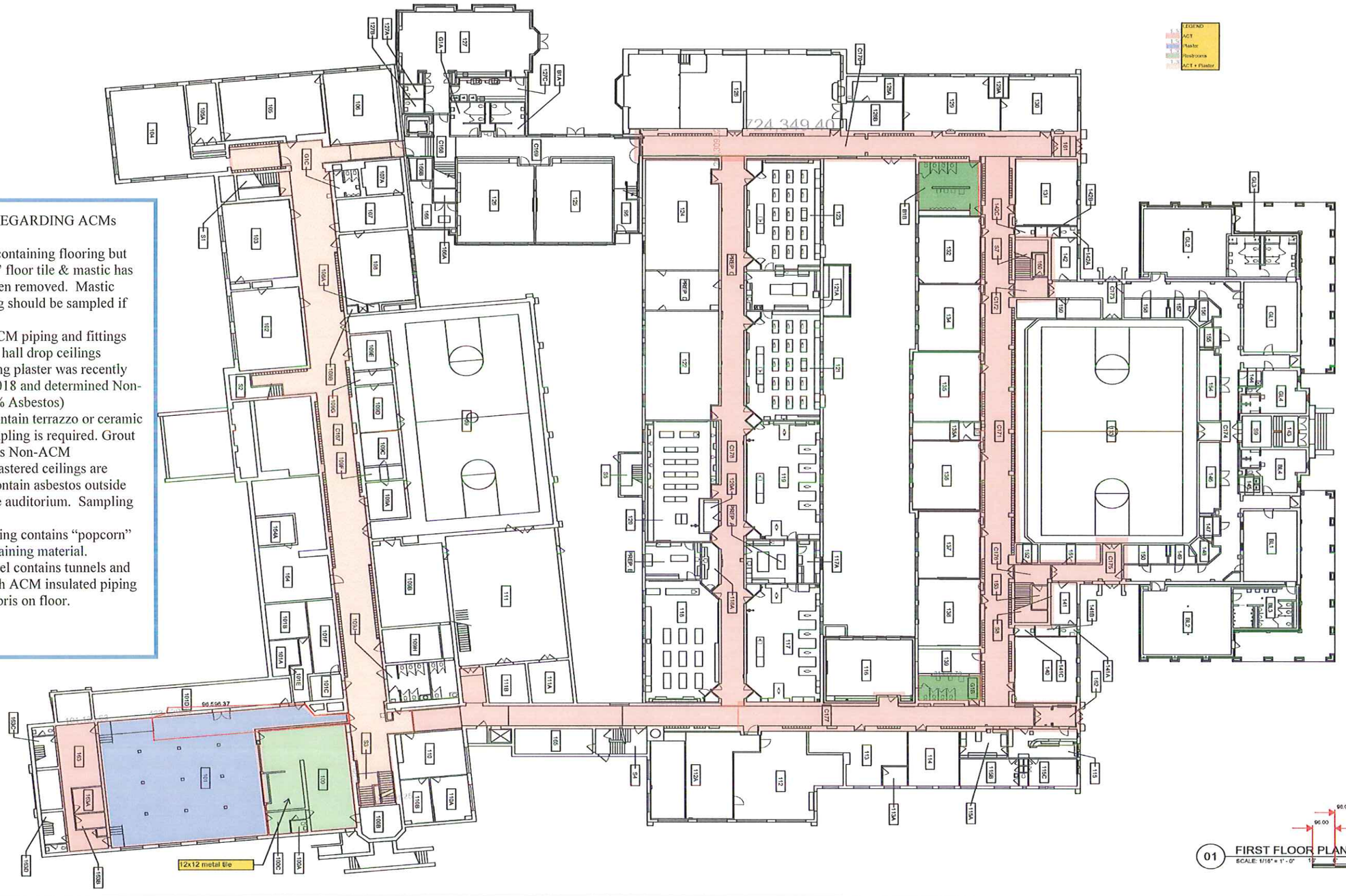
B. Removal of Underground Storage Tanks (UST)									
1		$0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
				0.00	0.00	0.00	0.00	0.00	**0.00**
C. Lead-Based Paint (LBP) - Renovation Only									**0.00**
1.	Estimated Cost for Abatement Contractor to Perform Lead Abatement	$0.00	5000.00	5000.00	0.00	0.00	0.00	0.00	**10000.00**
2.	Special 3rd Party Environmental Consulting Fees	$0.00	5000.00	5000.00	0.00	0.00	0.00	0.00	**10000.00**
3.	(Sum of lines 1-2)	**$0.00**	10000.00	10000.00	0.00	0.00	0.00	0.00	**20000.00**
					0.00	0.00	0.00	0.00	**0.00**
D. Fluorescent Lamps & Ballasts Recycling/Incineration									**0.00**
Area of Building Addition		**Total Cost**							**0.00**
1		**$0.00**	941.20	1000.00	500.00	800.00	55.00	1415.60	**4711.80**
									0.00
E. Other Environmental Hazards/Remarks ☐ None		Reported							**0.00**
Description		Cost Estimate							**0.00**
1.		$0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
2.		$0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
3.		$0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
	(Sum of Lines 1-3)	**$0.00**	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
									0.00
F. Hazardous Building Material Abatement Cost Estimate Summaries									**0.00**
1.	**(Sum of Lines A36, B4, C3, D1, and E4)**	**$185,295.00**	**33891.20**	**196350.00**	**54090.00**	**30720.00**	**55.00**	**1415.60**	**501816.80**
2.	**(Sum of Lines A37, B4, D1, and E4)**	**$185,295.00**	**33891.20**	**196350.00**	54090.00	30720.00	55.00	1415.60	**501816.80**

Comments: * - This Hazardous Bldg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commision

APPENDIX D
FLOOR PLANS

GENERAL NOTES REGARDING ACMs

1. All asbestos containing flooring but kitchen 9"x9" floor tile & mastic has reportedly been removed. Mastic under flooring should be sampled if found.
2. No known ACM piping and fittings are above the hall drop ceilings
3. Wall & Ceiling plaster was recently sampled in 2018 and determined Non-ACM (< 1.0% Asbestos)
4. Restrooms contain terrazzo or ceramic flooring. Sampling is required. Grout on tile walls is Non-ACM
5. Acoustical plastered ceilings are reported to contain asbestos outside and inside the auditorium. Sampling is required.
6. Cafeteria ceiling contains "popcorn" asbestos containing material.
7. Basement level contains tunnels and ductwork with ACM insulated piping and ACM debris on floor.



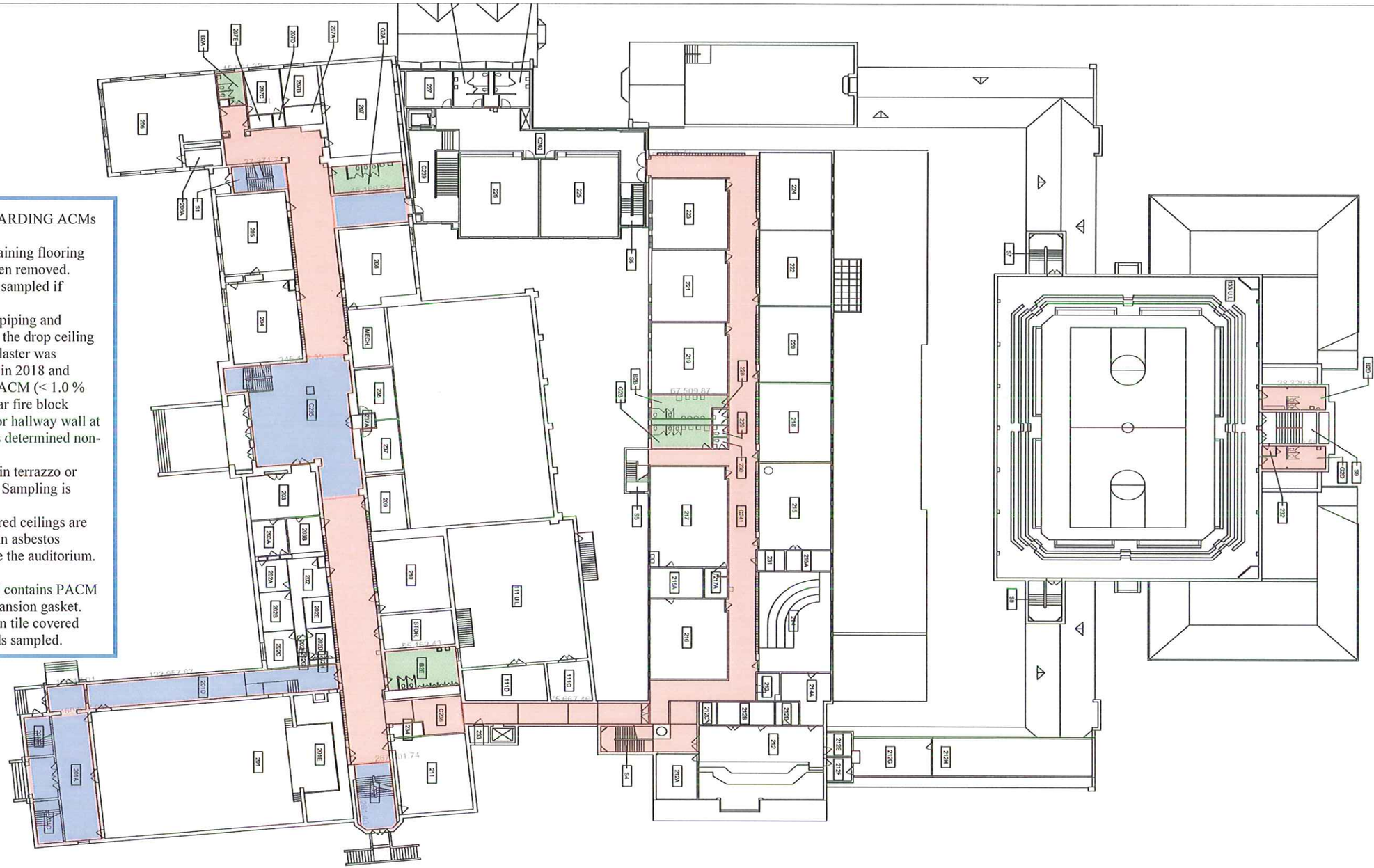
01 FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"

N

ERA tech Environmental, Inc.	**CLIENT** OAKWOOD CITY SCHOOLS	**PROJECT** OAKWOOD HIGH SCHOOL BASELINE ASBESTOS SURVEY	**DRAWING TITLE** **FIRST FLOOR** AS PROVIDED BY FANNING HOWEY	**Date:** 9-6-18 12-6-18	**Dwn. By:** fh	**Scale:** NTS	**Drawing:** OHS-ACM-1

GENERAL NOTES REGARDING ACMs

1. All asbestos containing flooring has reportedly been removed. Mastic should be sampled if found.
2. No known ACM piping and fittings are above the drop ceiling
3. Wall & Ceiling plaster was recently sampled in 2018 and determined Non-ACM (< 1.0 % Asbestos). Pyrobar fire block within the 3rd floor hallway wall at the north end was determined non-ACM.
4. Rest rooms contain terrazzo or ceramic flooring. Sampling is required.
5. Acoustical plastered ceilings are reported to contain asbestos outside and inside the auditorium. Need Sampled.
6. MEC/DATA RM contains PACM 3'x3' HVAC expansion gasket.
7. Restrooms contain tile covered walls. Grout needs sampled.



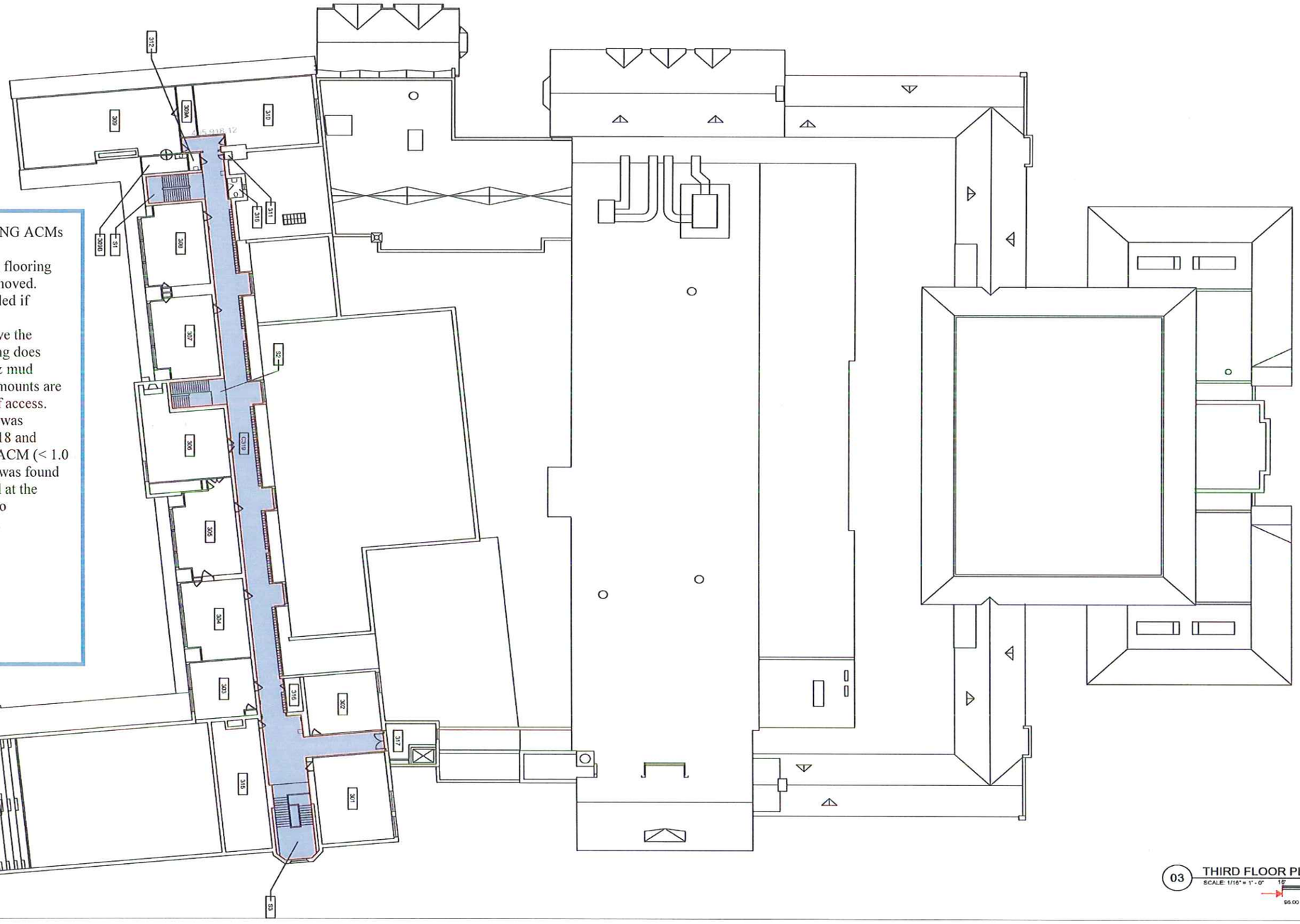
02 SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

N

ERA tech Environmental, Inc.	**CLIENT** OAKWOOD CITY SCHOOLS	**PROJECT** OAKWOOD HIGH SCHOOL BASELINE ASBESTOS SURVEY	**DRAWING TITLE** **SECOND FLOOR** AS PROVIDED BY FANNING HOWEY	**Date:** 9-6-18 12-6-18	**Dwn. By:** fh	**Scale:** NTS	**Drawing:** OHS-ACM-2

GENERAL NOTES REGARDING ACMs

1. All asbestos containing flooring has reportedly been removed. Mastic should be sampled if found.
2. Piping and fittings above the plastered hallway ceiling does contain asbestos pipe & mud insulation. The exact amounts are unknown due to lack of access.
3. Wall & Ceiling plaster was recently sampled in 2018 and determined to be Non-ACM (< 1.0 %). Pyrobar fire block was found within the hallway wall at the north end. This was also determined Non-ACM.



03 THIRD FLOOR PLAN
SCALE: 1/16" = 1'-0"

N

ERA tech Environmental, Inc.	**CLIENT** OAKWOOD CITY SCHOOLS	**PROJECT** OAKWOOD HIGH SCHOOL BASELINE ASBESTOS SURVEY	**DRAWING TITLE** **THIRD FLOOR** AS PROVIDED BY FANNING HOWEY	**Date:** 9-6-18 12-6-18	**Dwn. By:** fh	**Scale:** NTS	**Drawing:** OHS-ACM-3

APPENDIX E
RESUMES