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

#### Prepared for:



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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:

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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<sup>2</sup> 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.

#### **<u>2.2</u>** 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:

<b>General Damage Category</b>	AHERA Damage Category	Criteria
Good	No damage	No damage
Fair	Domaga	Up to 10% overall damage
ran	Damage	Up to 25% localized damage
Door	Cionificant domaga	Over 10% overall damage
Poor	Significant 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:

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

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

Influence of Air Erosion							
High	High velocity air (e.g. elevator shaft and fan room)						
Moderate	<ul> <li>Noticeable movement of air (e.g. air shaft, ventilator air stream)</li> </ul>						
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						

#### **<u>2.6</u>** 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	Туре
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.
11	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 #	2 Bulk Sample Data Su  Description	Room/Location	HA#	Floor	Friable	Туре
AS-01	12" x 12" Ceiling Tile	Hall by 312	A1			Misc.
		·	B1	3 3	N N	Misc.
AS-01	Glue Puck	Hall by 312	A1	3	N N	Misc.
AS-02	12" x 12" Ceiling Tile	Hall by 312		3		
AS-02	Glue Puck	Hall by 312	B1 C1	LL	N	Misc.
AS-03	Soundproofing	Lower level	C1	LL	N N	Misc.
AS-04	Soundproofing	Lower level  Lower level	D1		Y	Misc.
AS-05	Discarded Insulation Discarded Insulation	Lower level	D1	LL	Y	Misc.
AS-06	PyroBar Fire Brick	Family Room	kk	<b>LL</b> 3	N	Misc.
AS-07	·	·		3	N N	
AS-08	PyroBar Fire Brick Plaster-Ceiling	Family Room IT Offices	kk 11	1	N N	Misc.
AS-09		IT Offices	11	1	N N	
AS-10	Plaster-Ceiling			1		Misc.
AS-11	Popcorn Ceiling	Cafeteria	mm		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	Н2	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 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 <u>Locations of Asbestos Containing Materials</u>

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 <u>COST ESTIMATES</u>

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.

COMPREHENS	IVE ASBESTOS-	CONTAINING M	<b>APPENDIX A</b> IATERIAL SUMMARY

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

Material Description	Location	Quantity	HA#	Friable	Туре	Condition/ Potential	Response	Hazard Rank *
	Original But	ilding – 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	0&M	2
Pipe Insulation	Stockroom	46 LF	A03	No	TSI	Good/Mod	0&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	0&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	0&M	2
Pipe Insulation	Rms 103-106, typing storage, Rm 105 1.5"x40', 1.25"x70'	55 LF	A08	No	TSI	Good/Mod	0&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	0&M	2
Pipe Insulation	Boys Restroom	15 LF	A11	No	TSI	Good/Mod	0&M	2
Pipe Insulation	Rm 310-Attic Chase Entrance	160 LF	A12	No	TSI	Fair/Low	0&M	4
Pipe Insulation	Walls & Ceiling	1600 LF	<b>PACM</b>	Unk	TSI	Unk.	0&M	
Mud Joints/Fittings	Girls Gym Fan Room, Auditorium Storage	31 Fittings	B01	No	TSI	Good/Mod	0&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	0&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	0&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	0&M	1
Asbestos Cement Board		20	PACM	No	Misc.	Good/Low	0&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	0&M	1
Discarded Insulation	Lower Level Fresh Air Duct	<2 SF	D1	Yes	TSI	Poor/Any	Remove	7
	1922 Au	ditorium		• <u> </u>	-			
Pipe Insulation	Hidden	150 LF	<b>PACM</b>	Unk	TSI	Unk	0&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	Туре	Condition/ Potential	Response	Hazard Rank *
Electric Cord Insulation		500 LF	PACM	No	Misc.	Good/Low	0&M	1
Fire Door	Throughout	7	<b>PACM</b>	No	Misc.	Good/Low	0&M	1
Window Glazing	South Wall	9	PACM	No	Misc.	Good/Low	0&M	1
Carpet Mastic	Throughout	4600	PACM	No	Misc.	Good/Low	0&M	1
	Origina	al 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	0&M	5
Pipe Insulation	Jr High Tunnel	2,025 LF	H06	Yes	TSI	Fair/Mod	0&M	5
Pipe Insulation	Hidden in walls/Ceiling	800 LF	PACM	Unk	TSI	Unk	0&M	
Mud on Joints/Fittings	Air Supply Shaft	6 Fittings	I02	No	TSI	Fair/Mod	0&M	5
Mud on Joints/Fittings		59 Fittings	PACM	No	TSI	Fair/Mod	0&M	5
Mud on Joints/Fittings	Jr. High Tunnel	720 Fittings	PACM	No	TSI	Fair/Mod	O&M	5
Boiler Dismantling		2	<b>PACM</b>	No	TSI	Good/Low	0&M	1
Flexible Duct Connection		10	PACM	No	TSI	Good/Low	0&M	1
Fire Doors	Throughout	22	PACM	No	Misc.	Good/Low	0&M	1
Carpet Mastic	Throughout	11100	<b>PACM</b>	No	Misc.	Good/Low	0&M	1
	1959 S	Science	_			-		
Pipe Insulation(Hidden)	Walls & Ceilings	630 LF	PACM	No	TSI	Unk	0&M	
Laboratory Table/Counter Top	Throughout	160	PACM	No	Misc.	Good/Low	<i>O&amp;M</i>	1
Transite	Rooms 112, 113 Hoods	140 SF	M01	No	Misc.	Good/Low	0&M	1
Fire Doors	Throughout	17	<b>PACM</b>	No	Misc.	Good/Low	0&M	1
	1969 A	ddition	_			-		
Pipe Insulation(Hidden)	Walls & Ceiling	440 LF	<b>PACM</b>	Unk	TSI	Unk	0&M	
Flexible Duct Connection	HVAC Utility Room	1	PACM	No	Misc.	Good/Low	0&M	1
Fire Doors	Throughout	5	PACM	No	Misc.	Good/Low	0&M	1
Carpet Mastic		1200 SF	<b>PACM</b>	No	Misc.	Good/Low	0&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

CHAIN-OF-CUSTODY &	PPENDIX B MENTATION



# Chain of Custody Asbestos

Lab Address:

# EMSL Analytical Cinnaminson, NJ

#### 1-888-4-MOLD-HELP

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Kettering	nington Pike	<del></del>							Third P	arty Billing i	equires wr	itten authonz	ation from third	party
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	R-93/116 (PLM) t Count (400PT)		on Electron (TEM)				=			or tile & ca estos is not				LM Result => 1,0% but < OPT on the COMPOSITE
	ontrast (PCM)	d Flame AA -7	%by Weight (LBP)	trace but <			·)			M on a				hr TAT (PLM+C)
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Name of Sa	ampler: Dougla	s M. Kohnen,	AHES, APD							Signatu	re of San	npler:		ľ
Sample #		Material De	scription		Room	ı/Locatio	חכ	HA#	Floor	Test Code	Friable	Туре	Pho	to/Notes
AS-1	12"×12"	Ceiling T	ile + DKI	Brown	Holl.	6431	כו	A F	3	PLM	NO	Misc		
		0	6/2	e pucks	174-1	7	~	1.2	_		-			
A3.2	12" ×12"	Ceiling TI	ile + DK	Brown	Hall	W 31	2	AB	7	PLM	NO	Misc	<del>-</del> -	
			Glue	pucks	7.00	1		<u> </u>		1 4 - 1	700	<i>y</i> .,, , ,		
AS.3	-Soun'd	proofing	ON Fresh	Air	Lowe	r Fee	rel	2	LL	PLM	NO	MISC		
	Tunne		side cei								,,,,	7,,,,,,,		
A3.4	Sound	proofing	ON Fres	h.AN	Low	25/01	vel	4	LL	PLM	NO	Misc.	-	
	TUNNE	1 - Rigi	-t side										_	
A5.5	Discar	led INBI	a noitely	# I/S	Low	er le	ve/	<u> </u>	70	PLM	<i>yes</i>	MISC		
	Fresh	Air Ro		_ ,									i	
AS-6			lation -:	I/S	Lowe	r lei	<u>ve/</u>	⊅	14	PLM	yes	MISL.	<i>1</i> 07	<b>3</b>
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			-478-3598) if there	are ANY Ques	stions.			Ė						
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1



Attention: Douglas M. Kohnen, MS, AHES, CMC

ERAtech Environmental, Inc.

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

Project ID:

**Phone:** (937) 478-3598

**Fax:** (937) 859-9132

Received Date: 11/20/2018 9:35 AM

**Analysis Date:** 11/20/2018 **Collected Date:** 11/19/2018

Project: 18-9929 / Oakwood HS / Jr HS

3508 Wilmington Pike

Kettering, OH 45429

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

			<u>Asbestos</u>		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
AS-1-Ceiling Tile	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	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)

Ana	lyst	(s)

Alexis Kum (4)

Seri Smith (3)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AlHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

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

OrderID: 041835051

071835081



# Chain of Custody Asbestos

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Cinnaminson, NJ
2018 NOV 28 A II: 02

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	Douglas M. Ko		<del></del>			ne #: (9	37) 859	-8998 c	r (937)	478-6920
		noore, vsowash, cplumby (@erat	techenv.com)	<del></del>			59-9132			Purchase Order: 18-9929
		29 OAKWOOD HS	<u> </u>	<del></del>			Results:			
	mples Taken: Of			Coll	ecte	d on:		11/27/201	8	<u></u>
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*Analysis col	mpleted in accordanc	e with ERAtech's Terms and Conditions.	<u>.</u>		Į.					
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•EPA 600/F	R-93/116 (PLM)	PLM		ĺ						
Special	Instructions:	Stop 1st Positive per HA#	-		-		1/	-	4.	
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Name of S	ampler: Keith A.	Moore AUES			$\top$			ture of Sa		
	Ampier, Kettir A.		Room	L n/Location	HA	Floor	Test	1	Г	
Sample #		Material Description			#		Code	Friable	Туре	Photo/Notes
AS-7	PyroBar Fire Br			ily Room	kk	3	PLM	N	Misc.	
AS-8	PyroBar Fire Bri			ily Room	kk	3	PLM	N	Misc.	
AS-9	Plaster - Ceiling			Offices	11	1	PLM	N	Misc.	
AS-10	Plaster - Ceiling			Offices	11	1	PLM	N	Misc.	<del> </del>
AS-11	Popcorn Ceiling			afeteria	mm		PLM	N	Misc.	<u> </u>
AS-12	Popcorn Ceiling			afeteria	min		PLM	N	Misc.	<del> </del>
AS-13	Popcorn Ceiling			afeteria	mm	_	PLM	N	Misc.	
AS-14	Tile Wall - Grou			r Boys Room	nn	1	PLM	N	Misc.	<u> </u>
AS-15	Tile Wall - Grou	t	1st Floo	r Girls Room	nn	1	PLM	N	Misc.	1
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Client San	nple # (s):		l		+	Total	# of Samp	oles:	·	(9)
	ned (Client):	Feith A. Moore	Da	ate: 11/27/	2018		•		Time: 6:	
Received (	(Client):	Cho	Date	•	ll-	14	-(4		Time:	10:50
Comments:		ween 1.0% and 3.0% asbestos con e on 6 hour TAT.	ntaining, please perfo	orm 400 point	cour	it on bo	th sample	es -		



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: Customer ID: Customer PO:

041835051 ERAT50 18-9929

Project ID:

Attn: Douglas M. Kohnen, MS, AHES, CMC

> ERAtech Environmental, Inc. 3508 Wilmington Pike Kettering, OH 45429

Phone: Fax: Collected: (937) 859-8998 (937) 859-9132 11/27/2018

Received:

11/28/2018

Analyzed:

11/29/2018

18-9929 / Oakwood HS Proj:

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

041835051-0001 Lab Sample ID: Client Sample ID: AS-7

Sample Description: Family Room/Pyrobar Fire Brick

		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	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

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

041835051-0003 Lab Sample ID: Client Sample ID: AS-9-Skim Coat

Sample Description: IT Offices/Plaster-Ceiling

	Analyzed		Non-Asbestos				
TEST	Date	Color	Fibrous 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

Client Sample ID:

	Analyzed		Non-	Asbestos		
TEST	Date	Color	Fibrous	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	

Lab Sample ID: 041835051-0004 AS-10-Skim Coat Client Sample ID:

Sample Description: IT Offices/Plaster-Ceiling

	Analyzed		Non-Asbestos			
TEST	Date	Color	Fibrous 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

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

041835051-0005 AS-11 Lab Sample ID: Client Sample ID:

Sample Description: Cafeteria/Popcorn Ceiling

	Analyzed		Non-Asb	estos		
TEST	Date	Color	Fibrous No	n-Fibrous	Asbestos	Comment
PLM	11/28/2018	White	0%	96%	4% Chrysotile	



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

Lab Sample ID:

Lab Sample ID:

041835051 ERAT50 18-9929

041835051-0007

041835051-0009

Project ID:

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

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

Sample Description: Cafeteria/Popcorn Ceiling

> Non-Asbestos Analyzed

**TEST** Date Color Fibrous Non-Fibrous Asbestos Comment

PLM 11/28/2018 Positive Stop (Not Analyzed)

Client Sample ID: Sample Description: Cafeteria/Popcorn Ceiling

AS-13

Analyzed Non-Asbestos

TEST Date Fibrous Non-Fibrous Comment Color Asbestos PLM 11/28/2018

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

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

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

Positive Stop (Not Analyzed)

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

AS-15

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

Analyst(s):

Client Sample ID:

400 PLM Pt Ct (2) Benjamin Verghese

Christina Maiorana PLM (4) **Daniel Fricker** PLM (5)

Reviewed and approved by:

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

HOG

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. This test report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. EMSL bears no responsibility for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples. PLM alone is not consistently reliable in detecting asbestos in floor coverings and similar NOBs

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

OrderID: 041835051

### 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:

<u>LABConnect</u> | <u>Order Products</u> | <u>Client Corner</u> | <u>Training</u> | <u>Additional Resources</u> | <u>Sampling Videos</u>

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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



# Chain of Custody Asbestos

RECEIVED

Lab Address:

CITILIA FINISON, MJ

Cinnaminson, NJ

DEC -5 P 12: 13

ERAtech	Atech Environmental, Inc.									: X_S	ameD	Different Comments**
3508 Wilr	nington Pike	)						Third P				tion from third party
Kettering		Ohio	)	-		4542	29					
Report To : E	ouglas M. Ko	hnen, CMC	-			Telepi	hone	#: (93	7) 859-8	3998 or	(937) 47	78-6920
Email Resul	ts to dkohnen, k	moore, bhawkins (@erateche	nv.com)			Fax #: (93,7) 859-9132 Purchase Order: 18-9929						Purchase Order: 18-9929
Project Name	/Number: 18-99	29 OAKWOOD HS				Please	e Pro	vide Re	sults: Er	nail		•
U.S. State Sa	mples Taken: Oh	nio				Colle	cted	on:		12/4/2018		
•	,	<u> </u>	Turnaround T	ime (TAT)	Options*	s* - Please Check						
	3 HourX6 H			Hour	_1 Week _	2 W	eek			•		
"Analysis con	npieted in accordance	with ERAtech's Terms and Condition	\$.	Toot	Codes		-			_	•	
			<del>-</del>	162	Coues	$\overline{}$	- !					
•EPA 600/F	R-93/116 (PLM)	PLM								$\mathbf{A}_{I_{k}} \leqslant \epsilon$	,	
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Special	instructions.	- Stop 1st Positive per Fix	<del></del>		 		-		1	40	11-	a
					-		-		Teil	5_71-	100 C	
Name of Sa	ampler: Keith A. I	Moore, AHES		Beer	nii aaatia	<del>. 1</del>	100	<b>E</b> 1		ure of Sar	npler:	
Sample #		Material Description		KOON	n/Locatios	"   "	n##	Floor	Test Code	Friable	Туре	Photo/Notes
AS-16						vay	A	1	PLM	N	Misc.	
AS-17	AS-17 Plaster - Ceiling					way	Α	i	PLM	N	Misc.	
AS-18	AS-18 Plaster - Ceiling					vay	Α	1	PLM	N	Misc.	
AS-19	AS-19 Plaster - Wall					vay	В	1	PLM	N	Misc.	-
AS-20	Plaster - Wali -			22 - Mi	ddle Hallv	way	В	1	PLM <sup>-</sup>	N-	Misc.	
AS-21	Plaster - Wall			22 - Sc	outh Hallw	vay	В	1	PLM	N	Misc.	
AS-22	Plaster - Ceiling			22 - No	orth Hallw	vay	C	2	PLM	N	Misc.	
AS-23	Plaster - Ceiling			22 - Mi	ddle Hallv	way	ď	2	PLM	N	Misc.	
AS-24	Plaster - Ceiling			22 - Sc	outh Hallw	vay	Ć	2	PLM	N	Misc.	
AS-25	Plaster - Wall	• •		22 - No	orth Hallw	vay	D	2	PLM	N	Misc.	
AS-26	Plaster - Wall			22 - Mi	ddle Hallv	way	Ď	2	PLM	N	Misc.	
_AS-27	Plaster - Wall			22 - Sc	outh Hallw	vay	Ď	2_	PLM	И	Misc.	•
AS-28	Plaster - Wall			Stage an	ıd Auditor	rium	Ė	2	PLM	N	Misc.	
AS-29	Plaster - Wall	<u> </u>		Stage an	id Auditor	rium	Ę	2	PLM	N	Misc.	
AS-30	Plaster - Ceiling			22 -	Room 303	3	ţ	3	PLM	N	Misc.	
AS-31	Plaster - Ceiling			22 -	Room 303	3	F	3	PLM	N	Misc.	
AS-32	Plaster - Ceiling				Room 303		F	3	PLM	N	Misc.	
AS-33	Plaster - Wall			22 - Jar	nitorial Cl	oset	G	3	PLM	N	Misc.	
AS-34	Plaster - Wall			22 - Jar	nitorial Cl	oset	G	3	PLM	N	Misc.	
AS-35	Plaster - Wall			<del> </del>	Room 303		G	3	PLM	N	Misc.	
AS-36	Plaster - Ceiling			<del></del>	Room 13	-	H	1	PLM	N	Misc.	
AS-37	Plaster - Ceiling				Room 138		Н	1	PLM	N	Misc.	
AS-38	Plaster - Ceiling	w/ Glue Pucks			Room 13	_	Н	1	PLM	N	Misc.	
	AS-39 Plaster - Wall				Room 13		I	1	PLM	N	Misc.	
	AS-40 Plaster - Wali				Room 13	_	I	1	PLM	N	Misc.	
<del></del>	AS-41 Plaster - Wall				Room 13		I	1	PLM	N	Misc.	
AS-42				_	orth Hally	<del></del>	J	1.	PLM	N	Misc.	
AS-43	Plaster - Wall				iddle Hall		J	1	PLM	N	Misc.	
AS-44	Plaster - Wall			+	outh Hally	<del>-</del> +	J	1	PLM	N	Misc.	
AS-45	Plaster - Wall			_	orth Hally		K	2	PLM	N	Misc.	
AS-46	Plaster - Wall			1 09 - Mi	iddle Hall	way []	K	2	PLM	N	Misc.	

OrderID: 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	М	2	PLM	N	Surfacing	
AS-52	Soundproofing on Sink - Grey	69 - Art Rooms	М	2	PLM	N	Surfacing	
AS-53	Soundproofing on Sink - Grey	69 - Art Rooms	М	2	PLM	N	Surfacing	
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Client Sam	<del></del>			Total	# of Samp	les:	1	38
Relinauish	ed (Client): Faith A. Morra	Date: 12/4/2	2018				Time: 6:	55 PM
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omments:	If found to be less than 1.0% to 3.0% asbestos containing, pleastop first positive on 6 hour TAT	ise perform 400 point c	ount c	n both	samples •			
	stop first positive on 8 hour TAT		İ					



Client Sample ID:

Client Sample ID:

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041835806 ERAT50 18-9929

Project ID:

Attn: Douglas M. Kohnen, MS, AHES, CMC

> ERAtech Environmental, Inc. 3508 Wilmington Pike Kettering, OH 45429

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

Received: Analyzed:

12/05/2018 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:

Lab Sample ID:

041835806-0001

041835806-0001A

Sample Description: 22 - North Hallway - Ceiling/Texture

AS-16-Skim Coat

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

Sample Description: 22 - North Hallway - Ceiling/Plaster

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

041835806-0001B Lab Sample ID: Client Sample ID: AS-16-Base Coat

Sample Description: 22 - North Hallway - Ceiling/Plaster

Analyzed Non-Asbestos **TEST** Date Color Fibrous Non-Fibrous Asbestos Comment 12/05/2018 400 PLM Pt Ct 0.00% 99.50% 0.50% Chrysotile Gray 041835806-0002 Lab Sample ID:

AS-17-Texture Sample Description: 22 - Middle Hallway - Ceiling/Texture

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

Lab Sample ID: 041835806-0002A Client Sample ID: AS-17-Skim Coat

Sample Description: 22 - Middle Hallway - Ceiling/Plaster

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

Lab Sample ID: 041835806-0002B Client Sample ID: AS-17-Base Coat

Sample Description: 22 - Middle Hallway - Ceiling/Plaster

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

041835806-0003 Client Sample ID: Lab Sample ID: AS-18-Texture

Sample Description: 22 - South Hallway - Ceiling/Texture

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



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Lab Sample ID:

Lab Sample ID:

041835806 ERAT50 18-9929

041835806-0004

041835806-0004A

Project ID:

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

Lab Sample ID: 041835806-0003A Client Sample ID: AS-18-Skim Coat

Sample Description: 22 - South Hallway - Ceiling/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	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

	Analyzed		Non-Asbestos			
TEST	Date	Color	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

Sample Description: 22 - North Hallway - Wall/Texture

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

Client Sample ID: Sample Description:

AS-19-Skim Coat

22 - North Hallway - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	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

	Analyzed		Non-Asi	bestos			
TEST	Date	Color	Fibrous No	n-Fibrous	Asbestos	Comment	
400 PLM Pt Ct	12/05/2018	Gray	0.00%	99.75%	0.25% Chrysotile		

041835806-0005 Lab Sample ID: AS-20-Texture Client Sample ID:

Sample Description: 22 - Middle Hallway - Wall/Texture

	Analyzed		Non	-Asbestos				
TEST	Date	Color	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

	Analyzed		Non	-Asbestos			
TEST	Date	Color	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/P	laster					

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



Client Sample ID:

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Lab Sample ID:

041835806-0007

041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0006 Client Sample ID: AS-21-Texture

Sample Description: 22 - South Hallway - Wall/Texture

	Analyzed		Non	-Asbestos			
TEST	Date	Color	Fibrous	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

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

Lab Sample ID: Client Sample ID: AS-21-Base Coat 041835806-0006B

Sample Description: 22 - South Hallway - Wall/Plaster

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

AS-22-Texture Sample Description: 22 - North Hallway - Ceiling/Texture

Analyzed Non-Asbestos **TEST** Date Color Fibrous Non-Fibrous Asbestos Comment PLM 12/05/2018 Tan 0.0% 100.0% None Detected Lab Sample ID: 041835806-0007A Client Sample ID: AS-22-Skim Coat

Sample Description: 22 - North Hallway - Ceiling/Plaster

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

Lab Sample ID: 041835806-0007B AS-22-Base Coat Client Sample ID:

Sample Description: 22 - North Hallway - Ceiling/Plaster

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

041835806-0007C AS-22-Glue Lab Sample ID: Client Sample ID:

Sample Description: 22 - North Hallway - Ceiling/Glue

Analyzed Non-Asbestos Comment **TEST** Date Color **Fibrous** Non-Fibrous **Asbestos** PLM 12/05/2018 Brown 0.0% 100.0% None Detected Lab Sample ID: 041835806-0008 AS-23-Texture Client Sample ID:

Sample Description: 22 - Middle Hallway - Ceiling/Texture

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



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041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0008A Client Sample ID: AS-23-Skim Coat

Sample Description: 22 - Middle Hallway - Ceiling/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	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

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

Lab Sample ID: 041835806-0008C Client Sample ID: AS-23-Glue

Sample Description: 22 - Middle Hallway - Ceiling/Glue

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

Lab Sample ID: 041835806-0009 Client Sample ID: AS-24-Texture

Sample Description: 22 - South Hallway - Ceiling/Texture

	Analyzed		Non	-Asbestos				
TEST	Date	Color	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

		Analyzed		Non-	-Asbestos			
PLM 12/05/2018 White 0.0% 100.0% None Detected	TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
1 Livi 12/03/2010 Write 0.0 // 100.0 // Notice Detected	PLM	12/05/2018	White	0.0%	100.0%	None Detected		

Lab Sample ID: 041835806-0009B Client Sample ID: AS-24-Base Coat

Sample Description: 22 - South Hallway - Ceiling/Plaster

	Analyzed		Non-	-Asbestos				
TEST	Date	Color	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

	Analyzed		Non-Asbestos					
TEST	Date	Color	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

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



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041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0010A Client Sample ID: AS-25-Skim Coat

Sample Description: 22 - North Hallway - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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

Lab Sample ID: 041835806-0011 Client Sample ID: AS-26-Texture

Sample Description: 22 - Middle Hallway - Wall/Texture

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

Lab Sample ID: 041835806-0011A Client Sample ID: AS-26-Skim Coat

Sample Description: 22 - Middle Hallway - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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

041835806-0012 Lab Sample ID: AS-27-Texture Client Sample ID:

Sample Description: 22 - South Hallway - Wall/Texture

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

Lab Sample ID: 041835806-0012A Client Sample ID: AS-27-Skim Coat

Sample Description: 22 - South Hallway - Wall/Plaster

	Analyzed		Non-A	Asbestos				
TEST	Date	Color	Fibrous I	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

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



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Lab Sample ID:

041835806-0014A

041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0013 Client Sample ID: AS-28-Skim Coat

Sample Description: Stage and Auditorium - Wall/Plaster

	Analyzed		Non	-Asbestos			
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos		
TEST	Date	Color	Fibrous	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 Sample Description: Stage and Auditorium - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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

041835806-0015 Lab Sample ID: Client Sample ID: AS-30-Skim Coat

Sample Description: 22 - Room 303 - Ceiling/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

	Analyze	d	Non	-Asbestos			
TEST	Date	Color	Fibrous	Non-Fibrous	Asbestos	Comment	
PLM	12/05/201	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

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



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Lab Sample ID:

041835806-0017

041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0016 Client Sample ID: AS-31-Skim Coat

Sample Description: 22 - Room 303 - Ceiling/Plaster

Analyzed Non-Asbestos **TEST** Date Color Fibrous 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

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

Lab Sample ID: Client Sample ID: AS-31-Glue 041835806-0016B

Sample Description: 22 - Room 303 - Ceiling/Glue Pucks

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

Client Sample ID:

AS-32-Skim Coat

Sample Description: 22 - Room 303 - Ceiling/Plaster

Analyzed Non-Asbestos **TEST** Date Color Fibrous Non-Fibrous Asbestos Comment PLM 12/05/2018 White 0.0% 100.0% None Detected 041835806-0017A Lab Sample ID: Client Sample ID: AS-32-Base Coat

Sample Description: 22 - Room 303 - Ceiling/Plaster

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

Lab Sample ID: 041835806-0017B AS-32-Glue Client Sample ID:

Sample Description: 22 - Room 303 - Ceiling/Glue Pucks

Non-Asbestos Analyzed TEST Fibrous Non-Fibrous Comment Date Color Asbestos PLM 12/05/2018 0.0% 100.0% None Detected Brown 041835806-0018 AS-33-Skim Coat Lab Sample ID: Client Sample ID:

Sample Description: 22 - Janitorial Closet - Wall/Plaster

Analyzed Non-Asbestos Comment **TEST** Date Color **Fibrous** Non-Fibrous **Asbestos** PLM White 12/05/2018 0.0% 100.0% None Detected Lab Sample ID: 041835806-0018A AS-33-Base Coat

Client Sample ID:

Sample Description: 22 - Janitorial Closet - Wall/Plaster

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



Client Sample ID:

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041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0019 Client Sample ID: AS-34-Skim Coat

Sample Description: 22 - Janitorial Closet - Wall/Plaster

	Analyzed		Non	-Asbestos			
TEST	Date	Color	Fibrous	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

AS-34-Base Coat Sample Description: 22 - Janitorial Closet - Wall/Plaster

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

Lab Sample ID: 041835806-0020 Client Sample ID: AS-35-Skim Coat

Sample Description: 22 - Room 303 - Wall/Plaster

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

Lab Sample ID: 041835806-0020A Client Sample ID: AS-35-Base Coat

Sample Description: 22 - Room 303 - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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

Lab Sample ID: 041835806-0021A AS-36-Base Coat Client Sample ID:

Sample Description: 32 - Room 136 - Ceiling/Plaster

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

Lab Sample ID: 041835806-0021B Client Sample ID: AS-36-Glue

Sample Description: 32 - Room 136 - Ceiling/Glue Pucks

	Analyzed		Non	-Asbestos			
TEST	Date	Color	Fibrous	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

	Analyzed		Non-Asbestos		
TEST	Date	Color	Fibrous Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	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-37-Base Coat Lab Sample ID: 041835806-0022A

Sample Description: 32 - Room 136 - Ceiling/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

	Analyzed		Non-Asbestos		
TEST	Date	Color	Fibrous 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

	Analyzed		Non	-Asbestos			
TEST	Date	Color	Fibrous	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

	Analyzed		Non-	-Asbestos				
TEST	Date	Color	Fibrous	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	_					
TEST	Date	Color	Fibrous	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

	Analyzed		Non-	Asbestos			
TEST	Date	Color	Fibrous	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

	Analyzed Non-Asbestos		-Asbestos					
TEST	Date	Color	Fibrous	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	

Client Sample ID: A5-40-5kim Coat Lab Sample ID. 041053000-0025

Sample Description: 32 - Room 138 - Wall/Plaster

	Analyzed		Non-Asbestos		
TEST	Date	Color	Fibrous Non-Fibrous	Asbestos	Comment
PLM	12/05/2018	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-40-Base Coat Lab Sample ID: 041835806-0025A

Sample Description: 32 - Room 138 - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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 Date	Color	Fibrous 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

	Analyzed		Non	-Asbestos		
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos		
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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



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041835806 ERAT50 18-9929

Project ID:

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

Lab Sample ID: 041835806-0029A Client Sample ID: AS-44-Base Coat

Sample Description: 59 - South Hallway - Wall/Plaster

	Analyzed		Non	-Asbestos				
TEST	Date	Color	Fibrous	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

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

Lab Sample ID: 041835806-0030A Client Sample ID: AS-45-Base Coat

Sample Description: 69 - North Hallway - Wall/Plaster

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

Lab Sample ID: 041835806-0031 Client Sample ID: AS-46-Skim Coat

Sample Description: 69 - Middle Hallway - Wall/Plaster

	Analyzed		Non-	Asbestos				
TEST	Date	Color	Fibrous	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

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

Lab Sample ID: 041835806-0032 Client Sample ID: AS-47-Skim Coat

Sample Description: 69 - South Hallway - Wall/Plaster

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

041835806-0032A AS-47-Base Coat Lab Sample ID: Client Sample ID:

Sample Description: 69 - South Hallway - Wall/Plaster

		Analyzed		Non	-Asbestos			
TEST		Date	Color	Fibrous	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

Lab Sample ID: Client Sample ID: AS-48

Sample Description: 22 - Room 206/Soundproofing on Sink - Black

	Analyzed		Non	-Asbestos		
TEST	Date	Color	Fibrous	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.



Client Sample ID:

Client Sample ID:

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Lab Sample ID:

Lab Sample ID:

041835806 ERAT50 18-9929

041835806-0035

041835806-0037

Project ID:

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

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

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

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

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

AS-50

AS-52

Analyzed Non-Asbestos **TEST** Date Color Fibrous Non-Fibrous Comment Asbestos PLM 12/05/2018 Positive Stop (Not Analyzed) Lab Sample ID: 041835806-0036 Client Sample ID: AS-51

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

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

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

Analyzed Non-Asbestos **TEST** Date Color Fibrous Non-Fibrous Asbestos Comment PLM 12/05/2018 Gray 12.0% 88.0% None Detected Client Sample ID: Lab Sample ID: 041835806-0038

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

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



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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

Help

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. This test report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. EMSL bears no responsibility for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples. PLM alone is not consistently reliable in detecting asbestos in floor coverings and similar NOBs

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

Al	PPENDIX C
ASBESTOS ABATEMENT COST I	ESTIMATES

**Summary Page** 

Owner: Oakwood City Schools

12/6/2018

Facility: Oakwood High School

1922

1922

1932

Original

Auditorium

Original

0.00

0.00

0.00

0.00

196350.00

196350.00

0.00

0.00

0.00

33891.20

33891.20

			Original	Auditorium	Original
A. Asbest	os containing material (ACM)   AFM = asbestos free material		Estimated Cost	Estimated Cost	Estimated Cost
	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	\$45.00	0.00	0.00	0.
	Breeching Insulation Removal (\$10-\$20)	\$20.00	0.00	0.00	0.
	Tank Insulation Removal (\$8-\$18)	\$18.00	0.00	0.00	0
		\$16.00	0.00	0.00	0
	Duct Insulation Removal	\$30.00	45000.00	0.00	63000
	Pipe Insulation Removal	\$25.00	9375.00	0.00	18000
	Pipe Fitting Insulation Removal		4500.00	0.00	9000
	Pipe Insulation Removal (Crawlspace/Tunnel)	\$45.00	1000.00	0.00	3250
	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	\$50.00			
	Pipe Insulation Removal (Hidden in Walls/Ceiling)	\$15.00	24000.00	2250.00	12000
0	Dismantling of Boiler/Furnace/Incinerator	\$2,000.00	0.00	0.00	4000
1	Flexible Duct Connection Removal	\$100.00	500.00	0.00	1000
2	Acoustical Plaster Removal	\$12.00	34800.00	0.00	0
3	Fireproofing Removal	\$30.00	0.00	0.00	0
4	Hard Plaster Removal	\$10.00	0.00	0.00	0
5	Gypsum Board Removal	\$8.00	0.00	0.00	0
6	Acoustical Panel Tile Ceiling Removal	\$3.00	0.00	0.00	0
7	Laboratory Table/Counter Top Removal	\$150.00	0.00	0.00	0
8	Asbestos Cement Board Removal (Transite-like)	\$6.00	120.00	0.00	C
9	Electric Cord Insulation Removal	\$1.00	0.00	500.00	C
0	Light (Reflector) Fixture Removal	\$75.00	0.00	0.00	C
1	Sheet Flooring with Friable Backer Removal	\$4.00	0.00	0.00	C
	Fire Door Removal	\$100.00	1000.00	700.00	2200
2		\$100.00	0.00	0.00	(
3 4	Door & Window Panel Removal	\$6.00	0.00	0.00	(
4	Decontamin. of Crawlspace/Chase/Tunnel	\$150.00	0.00	0.00	
5	Soil Removal	\$150.00	32000.00	3000.00	16000
6	Non-ACM Acoust, Pan. Clg. Rem. (for access)			2700.00	10000
7	Window (Glazing/Putty, or Caulk)	\$300.00	300.00		
8	Resilient Flooring Removal, Incl. Mastic - Friable	\$300.00	0.00	0.00	0
9	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	\$4.00	0.00	0.00	0
0	Carpet Mastic Removal	\$3.00	2400.00	13800.00	33300
31	Carpet Removal (over RFC)	\$1.00	14000.00	0.00	C
2	Acoustical Tile Mastic Removal i	\$5.00	0.00	0.00	0
3	Sink Undercoating Removal	\$100.00	800.00	0.00	
4	Roofing Removal-Friable	\$5.00	0.00	0.00	(
35	Roofing Removal-Cat 2-Non-Friable	\$3.00	0.00	0.00	(
16	Other	lump sum	15500.00	0.00	23600
37	(Sum of lines 1-35)	Total Asb.	\$185,295.00	\$22,950.00	\$185,350
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	Total Asb.	185,295.00	22,950.00	185,350
	pestos Estimated Costs do not include 3rd party project design, s				
3. Remov	val of Underground Storage Tanks (UST)				
			\$0.00	0.00	(
C. Lead-E	Based Paint (LBP) - Renovation Only				
	Estimated Cost for Abatement Contractor to Perform Lead		200,000	5005.55	500
	Abatement		\$0.00	5000.00	5000
•	Special 3rd Party Environmental Consulting Fees		\$0.00	5000.00	5000
	(Sum of lines 1-2)		\$0.00	10000.00	10000
	O Delle de Describeration				
). Fluore	scent Lamps & Ballasts Recycling/Incineration				
Area of B	uilding Addition	Total Cost			
1			\$0.00	941.20	1000
E. Other	Environmental Hazards/Remarks		596 B 485		

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

Reported

Cost Estimate

\$0.00

\$0.00

\$0.00

\$0.00

\$185,295.00

\$185,295.00

## ERA tech Environmental, Inc.

(Sum of Lines 1-3)

F. Hazardous Building Material Abatement Cost Estimate Summaries

(Sum of Lines A36, B4, C3, D1, and E4)

(Sum of Lines A37, B4, D1, and E4)

Hazardous Building Material Removal Cost Estimate

□ None

Description

1959 1969 1989 2003 Total
Science Fitness Elevator Addition

Stimated Cost A Estimated Cost

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	0.00 0.00	27375.0 13500.0
0.00	0.00	0.00	0.00	4250.0
0.00 9450.00	6600.00	0.00	0.00	54300.0
0.00	0.00	0.00	0.00	4000.0
0.00	100.00	0.00	0.00	1600.0
0.00	0.00	0.00	0.00	34800.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
24000.00	0.00	0.00	0.00	24000.0
840.00	0.00	0.00	0.00	960.0
0.00	0.00	0.00	0.00	500.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
1700.00	500.00 0.00	0.00	0.00 0.00	6100.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
12600.00	8800.00	0.00	0.00	72400.0
0.00	0.00	0.00	0.00	3000.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	0.0
0.00	3600.00	0.00	0.00	53100.0
0.00	5320.00	0.00	0.00	19320.0
0.00	0.00	0.00	0.00	0.0
0.00	0.00	0.00	0.00	800.0
0.00	0.00	0.00	0.00	0.00
			0.001	0.00
0.00	0.00			
5000.00	5000.00	0.00	0.00	49100.0
				49100.00 \$477,105.00 477,105.00
5000.00 \$53,590.00	5000.00 <b>\$29,920.00</b>	0.00 \$0.00	0.00 \$0.00	49100.0 \$477,105.0
5000.00 \$53,590.00 53,590.00	5000.00 \$29,920.00 29,920.00	0.00 \$0.00 0.00	0.00 \$0.00 0.00	49100.0 \$477,105.0 477,105.0
5000.00 \$53,590.00 53,590.00	5000.00 \$29,920.00 29,920.00	0.00 \$0.00 0.00	0.00 \$0.00 0.00	49100.0 \$477,105.0 477,105.0
5000.00 \$53,590.00 53,590.00	5000.00 \$29,920.00 29,920.00	0.00 \$0.00 0.00	0.00 \$0.00 0.00	49100.0 \$477,105.0 477,105.0 0.0 0.0
5000.00 \$53,590.00 53,590.00 0.00	5000.00 \$29,920.00 29,920.00 0.00 0.00	0.00 \$0.00 0.00 0.00	0.00 \$0.00 0.00 0.00	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0
5000.00 \$53,590.00 53,590.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 0.00 0.00	0.00 \$0.00 0.00 0.00 0.00	0.00 \$0.00 0.00 0.00 0.00	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0
5000.00 \$53,590.00 53,590.00 0.00	5000.00 \$29,920.00 29,920.00 0.00 0.00	0.00 \$0.00 0.00 0.00	0.00 \$0.00 0.00 0.00	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 20000.0
5000.00 \$53,590.00 53,590.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 0.00 0.00	0.00 \$0.00 0.00 0.00 0.00	0.00 \$0.00 0.00 0.00 0.00	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 20000.0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 20000.0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 20000.0 0.0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 20000.0 0.0 0.0 4711.8
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 0.0 0.0 0.0 0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00	5000.00 \$29,920.00 29,920.00 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	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 20000.0 0.0 0.0 4711.8
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 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 0.0	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 10000.0 20000.0 0.0 0.0 4711.8 0.0
\$500.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 0.00 0.00 0.00 0.00 0.00	0.00 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	49100.6 \$477,105.6 477,105.6  0.6 0.6 0.6 10000.6 20000.6 0.6 0.6 4711.8 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$000.00 \$29,920.00 29,920.00 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 0.00 0.00 0.00 0.00 0.00 0.0	49100.6 \$477,105.6 477,105.6 477,105.6  0.6 0.6 10000.6 10000.6 20000.6 0.6 4711.8 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 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 0.0	0.00 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	49100.6 \$477,105.6 477,105.6  0.6 0.7 10000.6 10000.6 20000.6 0.7 0.7 4711.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 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 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	49100.6 \$477,105.6 477,105.6 0.6 0.6 10000.6 20000.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 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 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	49100.0 \$477,105.0 477,105.0  0.0 0.0 0.0 10000.0 20000.0 0.0 0.0 4711.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$29,920.00 \$29,920.00 29,920.00 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 \$0.00 0.00 0.00 0.00 0.00 0.00 0.0	49100.0 \$477,105.0 477,105.0 0.0 0.0 10000.0 20000.0 0.0
5000.00 \$53,590.00 53,590.00 0.00 0.00 0.00 0.00 0.00 0.00	\$000.00 \$29,920.00 29,920.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	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 0.0	49100.0 \$477,105.0 477,105.0  0.0 0.0 0.0 10000.0 20000.0 0.0 0.0 4711.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

55.00

1415.60

54090.00

30720.00

501816.80

Owner: Oakwood City Schools 12/6/2018 Date

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

> 76,823 Ft<sup>2</sup> Size

CM Found	s containing material (ACM) I AFM = asbestos free material	Status					Quantity		Uni	it_ I	Unit		Estimated Cost
IN I CONC	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	Not Present								Ft <sup>2</sup>		\$45.00	0.
	Breeching Insulation Removal (\$10-\$20)	Not Present								Ft <sup>2</sup>		\$20.00	0.
	Tank Insulation Removal (\$8-\$18)	Not Present								Ft <sup>2</sup>		\$18.00	0.
	Duct Insulation Removal	Not Present						- 40		Ft <sup>2</sup>		\$16.00 \$30.00	45000
	Pipe Insulation Removal	Reported ACM						150		Ft		\$25.00	9375
	Pipe Fitting Insulation Removal	Reported ACM Reported ACM				_				ea		\$45.00	4500
	Pipe Insulation Removal (Crawlspace/Tunnel)	Reported ACM					_			ea		\$50.00	1000
	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Reported ACM			_			16		Ft		\$15.00	24000
	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present					_	100		ea		\$2,000.00	0
	Dismantling of Boiler/Furnace/Incinerator	Reported ACM							-	ea		\$100.00	500
	Flexible Duct Connection Removal Acoustical Plaster Removal	Reported ACM				_		29		Ft <sup>2</sup>		\$12.00	34800
	Fireproofing Removal	Not Present								Ft <sup>2</sup>		\$30.00	0
	Hard Plaster Removal	Not Present (B)	Й.							Ft <sup>2</sup>		\$10.00	0
	Gypsum Board Removal	Not Present								Ft <sup>2</sup>		\$8.00	
	Acoustical Panel Tile Ceiling Removal	Reported ACM								Ft <sup>2</sup>		\$3.00	(
	Laboratory Table/Counter Top Removal	Not Present								ea		\$150.00	C
	Asbestos Cement Board Removal (Transite-like)	Not Present								Ft <sup>2</sup>		\$6.00	120
	Electric Cord Insulation Removal	Not Present								Ft.		\$1.00	<u></u>
	Light (Reflector) Fixture Removal	Not Present								ea		\$75.00	(
	Sheet Flooring with Friable Backer Removal	Not Present								Ft <sup>2</sup>		\$4.00	(
	Fire Door Removal	Not Present								ea		\$100.00	1000
	Door & Window Panel Removal	Not Present								ea		\$100.00	
	Decontamin, of Crawlspace/Chase/Tunnel	Not Present								Ft <sup>2</sup>		\$6.00	
	Soil Removal	Not Present	1011					64		u yd		\$150.00	3200
	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Reported Non-						64	_	Ft <sup>2</sup>		\$5.00	3200
	Window (Glazing/Putty, or Caulk)	Presumed ACM	1							ea		\$300.00	30
	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present								ea		\$4.00 \$4.00	
	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present						0		Ft <sup>2</sup>		\$3.00	240
	Carpet Mastic Removal	Reported ACM						140		Ft <sup>2</sup>		\$1.00	1400
	Carpet Removal (over RFC)	Reported ACM					_	140		Ft <sup>2</sup>		\$5.00	1400
	Acoustical Tile Mastic Removal i	Not Present					_		_	ea		\$100.00	80
	Sink Undercoating Removal	Reported ACM Unknown - Nee	de Compled							Ft <sup>2</sup>		\$5.00	(
	Roofing Removal-Friable						_		_	Ft <sup>2</sup>		\$3.00	
	Roofing Removal-Cat 2-Non-Friable	Unknown - Nee	os Sampleo			_			VI.	FI I		lump sum	15,50
	Other - Presumed Chaulk board Mastic & HVAC Exp Gskt (Sum of lines 1-35)	Presumed					Total Ash	Hazard Ah	ateme	ent Co	st for Renova		\$185,29
	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)						Total Ast	. Hazard At	atem	ent Co	ost for Demol	ition Work	185,29
	estos Estimated Costs do not include 3rd party project design, sp	ecial containmen	t construction	on, testing	g & moni	toring	, etc.						☐ None Repo
	of Underground Storage Tanks (UST)	Ti accellate				_	D 11-01		Size			Est. Ren	
nk No.		Location		Age		$\rightarrow$	Product Store	,	0120	_		Lot Non	\$(
						-							Ši
													Si
	(Sum of lines 1-3)	-			To	otal C	ost for Remov	al of Under	groun	id Sto	rage Tanks		Si
	(Sulf of lines 1-5)												
Lead-Ba	ased Paint (LBP) - Renovation Only											☐ Additio	n Constructed after 1
	Estimated Cost for Abatement Contractor to Perform Lead Aba	tement											\$5,00
	Special 3rd Party Environmental Consulting Fees				- 1								\$5,00
	(Sum of lines 1-2)							Total Co	st for	Lead	Based Paint		\$10,00
													☐ Not Applic
											1		- Not Applic
Fluores	cent Lamps & Ballasts Recycling/Incineration						% w/Flu	orescent		Unit		Total	
	cent Lamps & Ballasts Recycling/Incineration							orescent & Ballasts		Unit		Total Cost	
			76823	Ft²							\$0.20		\$15,36
ea of Bu	(A)		76823	Ft²			Lamps 8				\$0.20		\$15,36
ea of Bu	ilding Addition		76823	Ft²			Lamps 8				\$0.20		<b>\$15,</b> 36 Reported
Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8				\$0.20		Reported
ea of Bu	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8				\$0.20		Reported Cost Estimal
Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8				\$0.20		Reported Cost Estimal
Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8				\$0.20		Reported Cost Estima
Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8				\$0.20		Reported Cost Estima \$
of Bu Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8	& Ballasts		Cost		Cost	Reported Cost Estima
of Bu Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8	& Ballasts	Total	Cost	\$0.20	Cost	Reported Cost Estima
Other E	(A) invironmental Hazards/Remarks		76823	Ft²			Lamps 8	& Ballasts	Total	Cost		Cost	Reported Cost Estima
Other E None	ilding Addition  (A)  invironmental Hazards/Remarks  ous Building Material Abatement Cost Estimate Summaries		76823	Ft²			Lamps 8	& Ballasts	12.00.0000	Cost	for Other Env	Cost	Reported Cost Estima S
Other E None scription	ilding Addition  (A)  invironmental Hazards/Remarks		76823	Ft²	Total	I Cost	Lamps 8	& Ballasts	12.00.0000	Cost	for Other Env	Cost	Reported Cost Estima S
Other E None	ilding Addition  (A)  invironmental Hazards/Remarks  ous Building Material Abatement Cost Estimate Summaries		76823	Ft²	276-023638	0.000000	Lamps 8	& Ballasts	Reno	Cost	for Other Env	Cost	\$15,36:  Reported  Cost Estimat  \$ \$ \$ \$ \$ \$ \$ \$ \$ \$210,65 \$210,65

- 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)

#### ERA tech Environmental, Inc.

Project # 18-9929

Hazardous Building Material Removal Cost Estimate

Owner: Oakwood City Schools 12/6/2018 Date Facility: 1922 Auditorium Oakwood High School Building: 4,706 Ft2 Size A. Asbestos containing material (ACM) | AFM = asbestos free material Unit Quantity Unit Status \$45.00 Boiler/Furnace Insulation Removal (\$10-\$45/ft2) Not Present Ft Breeching Insulation Removal (\$10-\$20) Not Present 0.00 0.00 \$18.00 Tank Insulation Removal (\$8-\$18) Not Present Ft Not Present \$16.00 Ft Duct Insulation Removal Not Present Not Present LFt. Pipe Insulation Removal 0.00 Pipe Fitting Insulation Removal ea Pipe Insulation Removal (Crawlspace/Tunnel) Not Present LFt \$50.00 0.00 Pipe Fitting Insul. Rem. (CrawlspaceiTunnel) Not Present ea Not Present LFt Pipe Insulation Removal (Hidden in Walls/Ceiling) 0.00 \$2,000.00 Not Present ea Dismantling of Boiler/Furnace/Incinerator \$100.00 0.00 0.00 0.00 0.00 0.00 Flexible Duct Connection Removal Acoustical Plaster Removal Not Present ea Ft<sup>2</sup> Fireproofing Removal Not Present Ft Ft<sup>2</sup> \$10.00 Not Present (B) Hard Plaster Removal Gypsum Board Removal Not Present Ft \$8.00 lot Present Ft<sup>2</sup> Acoustical Panel Tile Ceiling Removal 16 \$150.00 0.00 ea Ft<sup>2</sup> L Ft Laboratory Table/Counter Top Removal Not Present 0.00 Not Presen Asbestos Cement Board Removal (Transite-like) 18 Reported ACM Not Present Electric Cord Insulation Removal \$75.00 0.00 Light (Reflector) Fixture Removal ea \$4.00 Sheet Flooring with Friable Backer Removal Not Present Ft<sup>2</sup> \$100.00 700.00 Reported ACM Fire Door Removal ea lot Present \$100.00 0.00 Door & Window Panel Removal ea 0.00 Decontamin, of Crawlspace/Chase/Tunnel Not Present Not Present Ft<sup>2</sup> \$6.00 \$150.00 cu yd Soil Removal 600 3000.00 Non-ACM Acoust. Pan. Clg. Rem. (for access) Reported Non-ACM Ft \$300.00 Reported ACM Window (Glazing/Putty, or Caulk) ea \$4.00 Resilient Flooring Removal, Incl. Mastic - Friable Not Present 0.00 ea \$4.00 0.0 Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable Not Present Ft 13800.0 Reported ACM Not Present 4600 Carpet Mastic Removal \$1.00 0.00 Carpet Removal (over RFC) Ft Ft<sup>2</sup> Acoustical Tile Mastic Removal i \$100.00 0.00 ink Undercoating Removal Not Present ea Unknown - Needs Sampled \$5.00 0.00 Ft<sup>2</sup> Roofing Removal-Friable Unknown - Needs Sampled Roofing Removal-Cat 2-Non-Friable 0.00 lump sum Total Asb. Hazard Abatement Cost for Renovation Work N/A (Sum of lines 1-35) Total Asb. Hazard Abatement Cost for Demolition Work 22,950.00 (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc. ☐ None Reported B. Removal of Underground Storage Tanks (UST) Est. Rem. Cost Size Tank No. Age Product Stored \$0.00 \$0.00 Total Cost for Removal of Underground Storage Tanks (Sum of lines 1-3) ☐ Addition Constructed after 1980 C. Lead-Based Paint (LBP) - Renovation Only \$5,000.00 Estimated Cost for Abatement Contractor to Perform Lead Abatement \$5,000.00 Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2) Total Cost for Lead-Based Paint \$10,000.00 ☐ Not Applicable D. Fluorescent Lamps & Ballasts Recycling/Incineration % w/Fluorescent Unit **Total Cost** Area of Building Addition Lamps & Ballasts 50.20 \$941.20 4706 Ft2 100% (A) E. Other Environmental Hazards/Remarks Reported Cost Estimate Description \$0.00 \$0.00 \$0.00 Total Cost for Other Environmental \$0.00 Hazards

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

Total Cost for Env. Hazards Work - Renovation

Total Cost for Env. Hazards Work - Demolition

\$33.891.20

\$33,891,20

(A) Cafeteria contains T12 bulbs that need upgraded

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

#### ERA tech Environmental, Inc.

F. Hazardous Building Material Abatement Cost Estimate Summaries

1. (Sum of Lines A37, B4, C3, D1, and E4)

(Sum of Lines A38, B4, D1, and E4)

Project # 18-9929

Hazardous Building Material Removal Cost Estimate

Owner: 12/6/2018 Oakwood City Schools Date

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

A. Asbesto	os containing material (ACM) I AFM = asbestos free material	Size										
ACM Found	d	Status					Quantity		Unit	Unit		Estimated Cost
	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	Not Present							Ft <sup>2</sup>		\$45.00	0.
	Breeching Insulation Removal (\$10-\$20)	Not Present							Ft <sup>2</sup>	-	\$20.00 \$18.00	0.
	Tank Insulation Removal (\$8-\$18)	Not Present Not Present									\$16.00	0.
	Duct Insulation Removal Pipe Insulation Removal	Reported Preser	nt				_	210			\$30.00	63000.
	Pipe Fitting Insulation Removal	Reported Preser						72			\$25.00	18000.
	Pipe Insulation Removal (Crawlspace/Tunnel)	Reported Preser						20			\$45.00	9000.
	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Reported Preser						6			\$50.00	3250.
	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Reported Preser						80			\$15.00	12000.
0	Dismantling of Boiler/Furnace/Incinerator	Not Present							ea		\$2,000.00	4000.
1	Flexible Duct Connection Removal	Reported Preser	nt					1	ea		\$100.00	1000.
2	Acoustical Plaster Removal	Not Present							Ft <sup>2</sup>		\$12.00	0.
3	Fireproofing Removal	Not Present							Ft <sup>2</sup>		\$30.00	0.
4	Hard Plaster Removal	Not Present							Ft <sup>2</sup>		\$10.00	0.
5	Gypsum Board Removal	Not Present							Ft <sup>2</sup>		\$8.00	0.
6	Acoustical Panel Tile Ceiling Removal	Not Present							11		\$3.00 \$150.00	0.
7	Laboratory Table/Counter Top Removal	Not Present Not Present		_						-	\$6.00	0.
9	Asbestos Cement Board Removal (Transite-like) Electric Cord Insulation Removal	Not Present							1 1 1		\$1.00	0.
0	Light (Reflector) Fixture Removal	Not Present									\$75.00	0.
1	Sheet Flooring with Friable Backer Removal	Not Present									\$4.00	0.
2	Fire Door Removal	Reported Preser	nt					2			\$100.00	2200
3	Door & Window Panel Removal	Not Present	2.00/0					-			\$100.00	0
4	Decontamin, of Crawlspace/Chase/Tunnel	Not Present									\$6.00	0
5	Soil Removal	Not Present							cu yd		\$150.00	0
6	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present						320			\$5.00	16000
7	Window (Glazing/Putty, or Caulk)	Not Present							ea		\$300.00	0
3	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present							ea		\$4.00	0
9	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present									\$4.00	0
0	Carpet Mastic Removal	Reported Preser	nt					1110			\$3.00	33300
1	Carpet Removal (over RFC)	Not Present							Ft <sup>2</sup>		\$1.00	0.
2	Acoustical Tile Mastic Removal i	Not Present							Ft <sup>2</sup>		\$5.00	0
3	Sink Undercoating Removal	Not Present	d							-	\$100.00	0.
4	Roofing Removal-Friable	Unknown - Need							Ft <sup>2</sup>		\$5.00	
5	Roofing Removal-Cat 2-Non-Friable	Unknown - Need	ds sampled						Ft <sup>2</sup>		\$3.00 lump sum	23,600.
7	Other - AHU Removal (15K) Elec Switchgear (2K)CkBd Mastic (Sum of lines 1-35)	(b.bk)					Total Act	Hazard Aha	tomant (	Cost for Renov		\$185,350
	al of Underground Storage Tanks (UST)	T									Fat Barr (	☐ None Repor
ank No.		Location		Age			Product Store	3	ze		Est. Rem. 0	\$0.
												\$0
r.	(Sum of lines 1-3)					Tota	l Cost for Rem	oval of Under	ground	Storage Tanks		\$0 \$0
Lead-Ba	(Sum of lines 1-3) ased Paint (LBP) - Renovation Only					Tota	Cost for Rem	oval of Unde	ground	Storage Tanks		\$0 \$0
Lead-Ba		ement				Tota	I Cost for Rem	oval of Under	ground	Storage Tanks		\$0 \$0 <b>\$0</b> Constructed after 19
. Lead-Ba	ased Paint (LBP) - Renovation Only	ement				Tota	I Cost for Rem	oval of Under	ground	Storage Tanks		\$0. \$0. \$0. Constructed after 19 \$5,000.
Lead-B	ased Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Abate	ement				Tota	Cost for Rem			Storage Tanks	☐ Addition (	\$0 \$0 \$0 Constructed after 19 \$5,000
Lead-Ba	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)	ement				Tota	Cost for Rem				☐ Addition (	\$0, \$0, \$0, Constructed after 15, \$5,000 \$5,000 \$10,000
. Lead-Ba	ased Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  scent Lamps & Ballasts Recycling/Incineration	ement				Tota				d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 19 \$5,000
. Fluores	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Scent Lamps & Ballasts Recycling/Incineration					Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition (	\$0 \$0 \$0 Constructed after 15 \$5,000 \$5,000 \$10,000
. Lead-Ba	ased Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  scent Lamps & Ballasts Recycling/Incineration		5000	Ft²		Tota	% w/Flu	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 19 \$5,000 \$5,000
Fluores	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Scent Lamps & Ballasts Recycling/Incineration		5000	Ft <sup>2</sup>		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 18 \$5,000 \$10,000
. Fluores rea of Bui	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft <sup>2</sup>		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 15 \$5,000 \$5,000 \$10,000
D. Fluores  The second of Builting States  The second of Built	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft²		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 19 \$5,000 \$5,000 \$10,000  Not Applica \$1,000  Reported Cost Estimate
D. Fluores	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft²		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0 \$0 \$0 Constructed after 19 \$5,000 \$5,000 \$10,000  Not Applica \$1,000  Reported Cost Estimate
. Other E	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft²		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0,
. Other E	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft <sup>2</sup>		Tota	% w/Flu Lamps &	Total Cos	t for Lea	d-Based Paint	☐ Addition C	\$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0, \$0,
. Fluores rea of Bui	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft <sup>2</sup>		Tota	% w/Flu Lamps &	Total Cos orescent & Ballasts	Unit Cost	d-Based Paint	Total Cost	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
. Fluores rea of Bui . Other E I None escription	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Ecent Lamps & Ballasts Recycling/Incineration (A) ( C )		5000	Ft <sup>2</sup>		Tota	% w/Flu Lamps &	Total Cos orescent & Ballasts	Unit Cost	d-Based Paint	Total Cost	\$0 \$0 \$0 \$0 Constructed after 19 \$5,000 \$5,000 \$10,000 □ Not Applica \$1,000  Reported Cost Estimate
. Fluores rea of Bui . Other E I None lescription	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Secont Lamps & Ballasts Recycling/Incineration (Iding Addition (A) ( C )  Environmental Hazards/Remarks		5000	Ft <sup>2</sup>			% w/Flu Lamps & 100%	Total Cos	Unit Cost	d-Based Paint \$0.20	Total Cost	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
D. Fluores  Trea of Bui  Other E  None  Description	Estimated Cost for Abatement Contractor to Perform Lead Abate Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  Secret Lamps & Ballasts Recycling/Incineration  Idding Addition  (A) ( C )  Environmental Hazards/Remarks		5000	Ft <sup>2</sup>	Tot		% w/Flu Lamps &	Total Cos	Unit Cost	d-Based Paint \$0.20	Total Cost	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$

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

#### ERA tech Environmental, Inc.

Project # 18-9929

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

ACM Found	s containing material (ACM) I AFM = asbestos free material	Status				Qu	antity	Uni			Estimated Cost
	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	Not Present						0 F		\$45.00	0.0
	Breeching Insulation Removal (\$10-\$20)	Not Present							t <sup>2</sup>	\$20.00	0.
	Tank Insulation Removal (\$8-\$18)	Not Present Not Present							t <sup>2</sup>	\$18.00 \$16.00	0. 0.
<u> </u>	Duct Insulation Removal Pipe Insulation Removal	Not Present							FL	\$30.00	0.
8	Pipe Fitting Insulation Removal	Not Present						_	a	\$25.00	0.
	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present						0 L	Ft.	\$45.00	0.
	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Not Present							а	\$50.00	0
	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Reported Pres	ent				6		Ft.	\$15.00	9450
0	Dismantling of Boiler/Furnace/Incinerator	Not Present							a	\$2,000.00	0
1	Flexible Duct Connection Removal Acoustical Plaster Removal	Not Present Not Present							a t <sup>2</sup>	\$100.00 \$12.00	0
3	Fireproofing Removal	Not Present							t <sup>2</sup>	\$30.00	0
4	Hard Plaster Removal	Not Present							t <sup>2</sup>	\$10.00	0
5	Gypsum Board Removal	Not Present							t <sup>2</sup>	\$8.00	0
6	Acoustical Panel Tile Ceiling Removal	Not Present							t <sup>2</sup>	\$3.00	0
7	Laboratory Table/Counter Top Removal	Reported Pres							a	\$150.00	24000
8	Asbestos Cement Board Removal (Transite-like)	Reported Pres	ent						t <sup>2</sup>	\$6.00 \$1.00	840
9	Electric Cord Insulation Removal Light (Reflector) Fixture Removal	Not Present Not Present							Ft.	\$75.00	0
1	Sheet Flooring with Friable Backer Removal	Not Present							t <sup>2</sup>	\$4.00	0
2	Fire Door Removal	Not Present			_			-	a	\$100.00	1700
3	Door & Window Panel Removal	Not Present							a	\$100.00	0
4	Decontamin, of Crawlspace/Chase/Tunnel	Not Present						0 F	t <sup>2</sup>	\$6.00	0
5	Soil Removal	Not Present							yd	\$150.00	0
6	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present					25		t <sup>2</sup>	\$5.00	12600
7	Window (Glazing/Putty, or Caulk)	Not Present							a	\$300.00 \$4.00	0
8	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present Not Present							a t <sup>2</sup>	\$4.00	0
9	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable Carpet Mastic Removal	Not Present							t <sup>2</sup>	\$3.00	0
1	Carpet Removal (over RFC)	Not Present							t <sup>2</sup>	\$1.00	0
2	Acoustical Tile Mastic Removal i	Not Present							t <sup>2</sup>	\$5.00	0
3	Sink Undercoating Removal	Not Present						0 6	a	\$100.00	0
4	Roofing Removal-Friable	Unknown - Nee							t <sup>2</sup>	\$5.00	0
5	Roofing Removal-Cat 2-Non-Friable	Unknown - Nee	eds Sampled					0 F	t <sup>2</sup>	\$3.00	0
								-1			
6 7 8	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	Reported				Tot	al Asb. Hazard Al al Asb. Hazard A	bateme	nt Cost for Reno	lump sum vation Work	5,000 \$53,590
6 7 8 Note: Asbe 3. Remova	Other - Chaulkboard Mastic (Sum of lines 1-35)	ecial containmen	nt construction	10 -51	nonitorir	Tot ng, etc.	al Asb. Hazard A	bateme bateme	nt Cost for Reno	lump sum vation Work olition Work	5,000 \$53,590 63,590
6 7 8 Note: Asbe	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp			10 -51	nonitorir	Tot	al Asb. Hazard A	bateme	nt Cost for Reno	lump sum vation Work	5,000 \$53,590 53,590 None Repor
6 7 8 Note: Asbe 3. Remova	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp	ecial containmen	nt construction	10 -51	nonitorir	Tot ng, etc.	al Asb. Hazard A	bateme bateme	nt Cost for Reno	lump sum vation Work olition Work	5,000 \$53,590 53,590 □ None Repor Cost
6 7 8 Note: Asbe 3. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp	ecial containmen	nt construction	10 -51	nonitorir	Tot ng, etc.	al Asb. Hazard A	bateme bateme	nt Cost for Reno	lump sum vation Work olition Work	5,000 \$53,590 53,590 None Repor Cost \$0
6 7 8 lote: Asbe I. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp	ecial containmen	nt construction	10 -51		Tot ng, etc. Product	al Asb. Hazard A	bateme bateme Size	nt Cost for Reno nt Cost for Dem	lump sum vation Work olition Work	5,000 \$53,590 53,590 □ None Report Cost \$0 \$0
6 7 8 lote: Asbe B. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp of Underground Storage Tanks (UST)	ecial containmen	nt construction	10 -51		Tot ng, etc. Product	al Asb. Hazard A	bateme bateme Size	nt Cost for Reno nt Cost for Dem	lump sum vation Work olition Work	5,000 \$53,590  53,590  □ None Repor  Cost  \$0  \$0  \$0  \$0  \$0  \$0  \$0  \$0  \$0  \$
7 8 oote: Asbe . Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp I of Underground Storage Tanks (UST)  (Sum of lines 1-3)	Location	nt construction	10 -51		Tot ng, etc. Product	al Asb. Hazard A	bateme bateme Size	nt Cost for Reno nt Cost for Dem	lump sum vation Work olition Work	5,000 \$53,590  \$53,590  □ None Repor  Cost  \$0  \$0  \$0  Constructed after 11
6 7 8 lote: Asbe c. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) (Sum of lines 1-35) stos Estimated Costs do not include 3rd party project design, sp I of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees	Location	nt construction	10 -51		Tot ng, etc. Product	Stored	Size	nt Cost for Reno nt Cost for Dem	Est Rem 0	5,000 \$53,590  \$53,590  None Repor  Sot  \$0  \$0  \$0  Constructed after 19  \$0  \$0
7 8 oote: Asbe . Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) (Sum of lines 1-35) stos Estimated Costs do not include 3rd party project design, sp I of Underground Storage Tanks (UST)  (Sum of lines 1-3) sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba	Location	nt construction	10 -51		Tot ng, etc. Product	Stored	Size	nt Cost for Reno nt Cost for Dem	Est Rem 0	5,000 \$53,590  53,590  None Repor  Sot  So  So  So  Constructed after 19  So  So  So  So  So  So  So  So  So  S
6 7 7 8 8 lotote: Asbe 3. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) (Sum of lines 1-35) stos Estimated Costs do not include 3rd party project design, sp I of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees	Location	nt construction	10 -51		Tot ng, etc. Product	Stored	Size	nt Cost for Reno nt Cost for Dem	Est Rem 0	5,000 \$53,590 53,590
6 7 7 8 8 lote: Asbe 6. Remova ank No.	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)	Location	nt construction	10 -51		Tot ng, etc. Product	Stored	Size Size	nt Cost for Reno nt Cost for Dem	Est Rem 0	5,000 \$53,590  None Report Cost \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
66 77 88 Note: Asbe 3. Remova ank No	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) (Sum of lines 1-35) stos Estimated Costs do not include 3rd party project design, sp of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)	Location	nt construction	10 -51		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno nt Cost for Dem nd Storage Tank	Est. Rem. C	5,000 \$53,590  None Report Cost \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
6 7 7 8 Rote: Asbe 8. Remova ank No	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) (Sum of lines 1-35) stos Estimated Costs do not include 3rd party project design, sp of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)	Location	nt construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590  None Report Cost  S0  S0  S0  Constructed after 19  S0  S0  S0  S0  S0  S0  S0  S0  S0  S
6 7 7 8 8 lote: Asbe c. Remova ank No	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	nt construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590  None Report Cost \$0 \$0 \$0 Constructed after 19 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
6 7 7 8 8 lote: Asbe c. Remova ank No	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	nt construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590  None Reported S0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
3 7 7 3 ote: Asbe . Remova ank No Lead-Ba . Fluores: rea of Buil	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	nt construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590  None Report St
3 7 7 3 ote: Asbe . Remova ank No Lead-Ba . Fluores: rea of Buil	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	nt construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590 \$53,590  □ None Reported Structed after 1 \$00  □ Not Applicate Structed App
6 7 7 8 ote: Asbe Remova ank No. Lead-Ba Lead-Ba Conteres of Built Other End of Built None	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	at construction	ge		Product	Stored  Removal of Und  Total Co	Size Size	nt Cost for Reno int Cost for Dem	Est. Rem. C	5,000 \$53,590  \$53,590  None Repo  Cost  \$( \$5,000  S(
6 7 7 8 Rote: Asbe Remova ank No. Lead-Ba Lead-Ba Cother Ei None Rescription	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	at construction	ge		Product	Stored  Removal of Und  Total Co	bateme bateme Size	nt Cost for Reno int Cost for Dem	Lump sum   vation Work     Est. Rem. (	5,000 \$53,591  S1,591  None Repo  Cost  S(
6 7 7 8 8 ote: Asbe . Remova ank No Lead-Ba . Fluoresc crea of Buil i. Other Et l None Description	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) cstos Estimated Costs do not include 3rd party project design, sp. of Underground Storage Tanks (UST)  (Sum of lines 1-3) (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	at construction	ge		Product	Stored  Removal of Und  Total Co	bateme bateme Size	nt Cost for Reno nt Cost for Dem nd Storage Tank Lead-Based Pain Unit	Est Rem C  Est Rem C  Total Cost  output  avironmental	5,000 \$53,590 \$53,590  □ None Reported S0 \$50 \$50  □ Not Application  Reported Cost Estimate
6 6 7 7 8 8 lote: Asbe 6 Remova ank No	Other - Chaulkboard Mastic (Sum of lines 1-35) (Sum of lines 1-35) - Category 2 Non-Friable Floor & Roof) stos Estimated Costs do not include 3rd party project design, sp I of Underground Storage Tanks (UST)  (Sum of lines 1-3)  sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Aba Special 3rd Party Environmental Consulting Fees (Sum of lines 1-2)  cent Lamps & Ballasts Recycling/Incineration ding Addition	Location	at construction	ge Ft <sup>2</sup>	Tota	Product	Stored  Removal of Und  Total Co	Size Size Total (	nt Cost for Renormt Cost for Dem	Est Rem C  Est Rem C  Total Cost  output  avironmental	5,000 \$53,590 \$53,590  Description of the property of the prop

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
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### ERA tech Environmental, Inc.

Project # 18-9929

Hazardous Building Material Removal Cost Estimate

Owner: 12/6/2018 Oakwood City Schools Date Facility: Oakwood Junior High School Building: 1969 Jr High Addition 21,881 Ft2 Size Asbestos containing material (ACM) I AFM = asbestos free material ACM Found Quantity Unit Not Present Ft<sup>2</sup> Boiler/Furnace Insulation Removal (\$10-\$45/ft2) 0.00 \$20.00 Breeching Insulation Removal (\$10-\$20) Not Present Ft Not Present Ft<sup>2</sup> \$18.00 Tank Insulation Removal (\$8-\$18) \$16.00 Not Present Duct Insulation Removal LFt 0.00 Not Present Pipe Insulation Remova \$25.00 ea LFt. Pipe Fitting Insulation Removal Not Present \$45.00 0.00 Not Present Pipe Insulation Removal (Crawlspace/Tunnel) \$50.00 Not Present ea Pipe Fitting Insul. Rem. (CrawlspaceiTunnel) \$15.00 6600.00 Pipe Insulation Removal (Hidden in Walls/Ceiling) Not Present L Ft \$2,000.00 0.00 Not Present ea Dismantling of Boiler/Furnace/Incinerator Not Present Flexible Duct Connection Removal \$12.00 0.00 Not Present Acoustical Plaster Removal Ft Not Present Ft<sup>2</sup> Fireproofing Removal \$10.00 0.00 Hard Plaster Removal Not Present Ft Ft 0.00 Not Present Gypsum Board Removal Acoustical Panel Tile Ceiling Removal Not Present Fť 0.00 Not Present \$150.00 ea Laboratory Table/Counter Top Removal Asbestos Cement Board Removal (Transite-like) Not Present Ft<sup>2</sup> 0.00 \$1.00 Not Present Electric Cord Insulation Removal Light (Reflector) Fixture Removal Not Present ea 0.00 \$4.00 Not Present Ft<sup>2</sup> Sheet Flooring with Friable Backer Removal \$100.00 Not Present ea Fire Door Removal 0.00 0.00 0.00 8800.00 \$100.00 Door & Window Panel Removal Not Present ea \$6.00 \$150.00 \$5.00 Ft<sup>2</sup> Vot Present Decontamin, of Crawlspace/Chase/Tunnel Soil Removal Non-ACM Acoust. Pan. Clg. Rem. (for access) Not Present cu vd Reported Non-ACM Ft<sup>2</sup> 0.00 \$300.00 Window (Glazing/Putty, or Caulk) Not Present ea \$4.00 0.00 Resilient Flooring Removal, Incl. Mastic - Friable Not Present ea Tile reported removed but mastic unknown (2003 rpt)
Reported Present
Reported Present Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable \$3.00 \$1.00 \$5.00 3600.00 5320.00 Carpet Mastic Removal Ft Carpet Removal (over RFC) 0.00 Not Present Acoustical Tile Mastic Removal i Ft<sup>2</sup> Non-ACM \$100.00 0.00 ea Sink Undercoating Removal \$5.00 0.00 Roofing Removal-Friable unknown - Needs Sampled Ft 0.00 \$3.00 Roofing Removal-Cat 2-Non-Friable unknown - Needs Sampled lump sum Total Asb. Hazard Abatement Cost for Renovation Work Presumed Other - Chaulkborad Mastic \$29,920.00 Sum of lines 1-35) 29,920.00 Total Asb. Hazard Abatement Cost for Demolition Work (Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof) Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc. ☐ None Reported B. Removal of Underground Storage Tanks (UST) Product Stored Size Est. Rem. Cost Age Tank No. \$0.00 \$0.00 \$0.00 Total Cost for Removal of Underground Storage Tanks \$0.00 (Sum of lines 1-3) ☐ Addition Constructed after 1980 C. Lead-Based Paint (LBP) - Renovation Only \$0.00 Estimated Cost for Abatement Contractor to Perform Lead Abatement \$0.00 Special 3rd Party Environmental Consulting Fees Total Cost for Lead-Based Paint \$0.00 (Sum of lines 1-2) ☐ Not Applicable D. Fluorescent Lamps & Ballasts Recycling/Incineration % w/Fluorescent Unit **Total Cost** Area of Building Addition Lamps & Ballasts 100% \$0.20 \$800.00 Ft2 4000 E. Other Environmental Hazards/Remarks □ None Reported Cost Estimate Description \$0.00 \$0.00 \$0.00 Total Cost for Other Environmenta \$0.00

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

Total Cost for Env. Hazards Work - Renovation

Total Cost for Env. Hazards Work - Demolition

\$30,720.00

\$30,720.00

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)

#### ERA tech Environmental, Inc.

F. Hazardous Building Material Abatement Cost Estimate Summaries

(Sum of Lines A37, B4, C3, D1, and E4)

(Sum of Lines A38, B4, D1, and E4)

Project # 18-9929

Hazardous Building Material Removal Cost Estimate

Oakwood City Schools

Owner:

Facility:	Oakwood High School	Building:	1989 Ele	evator (	Corrido	or Add	ditic	on					
	<b>3</b>	Size	550	Ft²									
	containing material (ACM) I AFM = asbestos free material							0	-1.	1.24	17-9		Fatimated Coat
ACM Found	Della-France Insulation Democrat (640 645/62)	Status Not Present					-	Quantity	0	Jnit Ft <sup>2</sup>	Unit	\$45.00	Estimated Cost 0.00
1.	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)  Breeching Insulation Removal (\$10-\$20)	Not Present					$\neg$		0	Ft <sup>2</sup>		\$20.00	0.00
2. 3.	Tank Insulation Removal (\$8-\$18)	Not Present					$\neg$		0	Ft <sup>2</sup>		\$18.00	0.00
4.	Duct Insulation Removal	Not Present							0	Ft <sup>2</sup>		\$16.00	0.00
5.	Pipe Insulation Removal	Not Present							0	LFt		\$30.00	0.00
6. 7.	Pipe Fitting Insulation Removal	Not Present					$\dashv$		0	ea LFt		\$25.00 \$45.00	0.00
/	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present Not Present					-		0	ea		\$50.00	0.00
8. 9	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)  Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present							o	LFL		\$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 <sup>2</sup>		\$12.00	0.00
13	Fireproofing Removal	Not Present Not Present					-		0	Ft <sup>2</sup>		\$30.00 \$10.00	0.00
14 15	Hard Plaster Removal Gypsum Board Removal	Not Present					$\dashv$		0	Ft <sup>2</sup>		\$8.00	0.00
16	Acoustical Panel Tile Ceiling Removal	Not Present							0	Ft <sup>2</sup>		\$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 <sup>2</sup>		\$6.00	0.00
19	Electric Cord Insulation Removal	Not Present Not Present							0	LFt.		\$1.00 \$75.00	0.00
20	Light (Reflector) Fixture Removal Sheet Flooring with Friable Backer Removal	Not Present							0	ea Ft <sup>2</sup>		\$4.00	0.00
21 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
23 24 25 26 27 28	Decontamin. of Crawlspace/Chase/Tunnel	Not Present							0	Ft <sup>2</sup>		\$6.00	0.00
25	Soil Removal	Not Present							0	cu yd		\$150.00 \$5.00	0.00
26	Non-ACM Acoust. Pan. Clg. Rem. (for access)	Not Present Not Present							0	Ft <sup>2</sup>		\$300.00	0.00
28	Window (Glazing/Putty, or Caulk) 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 <sup>2</sup>		\$4.00	0.00
29 30 31 32	Carpet Mastic Removal	Not Present							0	Ft <sup>2</sup>		\$3.00	0.00
31	Carpet Removal (over RFC)	Not Present							0	Ft <sup>2</sup>		\$1.00	0.00
32	Acoustical Tile Mastic Removal i	Not Present Not Present					-		0	Ft <sup>2</sup> ea		\$5.00 \$100.00	0.00
33 34	Sink Undercoating Removal Roofing Removal-Friable	Unknown - Nee	eds Samoleo	1					0	Ft <sup>2</sup>		\$5.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	Unknown - Nee							0	Ft <sup>2</sup>		\$3.00	0.00
36	Other	N/A										lump sum	0.00
37	(Sum of lines 1-35)							otal Asb. Hazard A					\$0.00
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)							Total Asb. Hazard A	lbate	ment C	ost for Demo	lition work	0.00
Note: Asbe	stos Estimated Costs do not include 3rd party project design, spe	ecial containmen	it constructi	on, testin	g & moni	itoring,	etc.						
B. Remova	of Underground Storage Tanks (UST)												□ None Reported
Tank No.		Location		Age		P	rodu	ict Stored	Size	9		Est. Rem.	
1						_	_		_				\$0.00 \$0.00
3.						_							\$0.00
4.	(Sum of lines 1-3)					Total C	Cost	for Removal of Und	dergr	ound S	torage Tanks		\$0.00
	1,000,000	-											
C. Lead-Ba	sed Paint (LBP) - Renovation Only											☐ Addition	Constructed after 1980
1	Estimated Cost for Abatement Contractor to Perform Lead Abate	ement											\$0.00
1.													\$0.00
2.	Special 3rd Party Environmental Consulting Fees						_		- 1/2				Tok Res
3.	(Sum of lines 1-2)							Total C	ost f	or Lead	-Based Paint		\$0.00
													22.000 000 000 000
D. Fluoreso	ent Lamps & Ballasts Recycling/Incineration												□ Not Applicable
Area of Buil	ding Addition .							% w/Fluorescent		Unit		Total Cost	
	And American and A	1	1075	2			_	Lamps & Ballasts 100%	-	Cost	\$0.20		\$55.00
1	(A)	1	275	Ft <sup>2</sup>				100%			\$0.20	J	\$55.00
E. Other Er	nvironmental Hazards/Remarks												Reported
Description													Cost Estimate
1.													\$0.00
							_						\$0.00
2.							_						
3.									_			• 0000000000000000000000000000000000000	\$0.00
									Tot	al Cost	for Other Env	rironmental Hazards	\$0.00
F. Hazardo	us Building Material Abatement Cost Estimate Summaries												
1.	(Sum of Lines A37, B4, C3, D1, and E4)				Tota	al Cost	for E	nv. Hazards Work -	Ren	ovation			\$55.00
	(0				Tot	al Cost	fort	Env. Hazarde Work	Dat	molition			\$55.00

12/6/2018

Date

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)

#### ERA tech Environmental, Inc.

Project # 18-9929

Hazardous Building Material Removal Cost Estimate

Owner:

Oakwood City Schools

Date

12/6/2018

Facility:

Oakwood Junior High School

Building:

2003 Additions

1/1156 Et2

	s containing material (ACM)   AFM = asbestos free material	Status						Quantity		Init	Unit		Estimated Cost
	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	Not Present							0	Ft <sup>2</sup>		\$45.00	(
	Breeching Insulation Removal (\$10-\$20)	Not Present							0	Ft <sup>2</sup>		\$20.00 \$18.00	(
	Tank Insulation Removal (\$8-\$18)	Not Present Not Present					_		0	Ft <sup>2</sup>		\$16.00	
	Duct Insulation Removal Pipe Insulation Removal	Not Present							0	L Ft.		\$30.00	
	Pipe Fitting Insulation Removal	Not Present							0	ea		\$25.00	(
	Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present							0	LFt		\$45.00	(
	Pipe Fitting Insul. Rem. (CrawlspaceiTunnel)	Not Present							0	ea		\$50.00	(
	Pipe Insulation Removal (Hidden in Walls/Ceiling)	Not Present							0	LFt		\$15.00	
	Dismantling of Boiler/Furnace/Incinerator	Not Present							0	ea		\$2,000.00	
	Flexible Duct Connection Removal	Not Present							0	ea		\$100.00	(
	Acoustical Plaster Removal	Not Present							0	Ft <sup>2</sup>		\$12.00	
06	Fireproofing Removal	Not Present							0	Ft <sup>2</sup>		\$30.00	
	Hard Plaster Removal	Not Present							0	Ft <sup>2</sup>		\$10.00	
	Gypsum Board Removal	Not Present							0	Ft <sup>2</sup>		\$8.00	
	Acoustical Panel Tile Ceiling Removal	Not Present					_		0	Ft <sup>2</sup>		\$3.00	
	Laboratory Table/Counter Top Removal	Not Present					_		0	ea		\$150.00 \$6.00	
	Asbestos Cement Board Removal (Transite-like)	Not Present							0	Ft <sup>2</sup>		\$1.00	
	Electric Cord Insulation Removal	Not Present							0	L Ft.		\$75.00	
0	Light (Reflector) Fixture Removal	Not Present Not Present					_		0	ea Ft <sup>2</sup>		\$4.00	
	Sheet Flooring with Friable Backer Removal	Not Present				_	-		0	ea		\$100.00	
	Fire Door Removal			-					0			\$100.00	
	Door & Window Panel Removal	Not Present Not Present					-		0	ea Ft <sup>2</sup>		\$6.00	
	Decontamin. of Crawlspace/Chase/Tunnel Soil Removal	Not Present							-	cu yd		\$150.00	
	Non-ACM Acoust, Pan. Clg. Rem. (for access)	Not Present							0	Ft <sup>2</sup>		\$5.00	
2	Window (Glazing/Putty, or Caulk)	Not Present							0	ea		\$300.00	
i e	Resilient Flooring Removal, Incl. Mastic - Friable	Not Present							0	ea		\$4.00	
	Resilient Flooring Removal, Incl. Mastic - Cat 2 Non-Friable	Not Present							0	Ft <sup>2</sup>		\$4.00	
	Carpet Mastic Removal	Not Present							0	Ft <sup>2</sup>		\$3.00	
	Carpet Removal (over RFC)	Not Present							0	Ft <sup>2</sup>		\$1.00	
	Acoustical Tile Mastic Removal i	Not Present							0	Ft <sup>2</sup>		\$5.00	
	Sink Undercoating Removal	Not Present							0	ea		\$100.00	
	Roofing Removal-Friable	Unknown - Ne	eds Sampled						0	Ft <sup>2</sup>		\$5.00	
	Roofing Removal-Cat 2-Non-Friable	Unknown - Ne							0	Ft <sup>2</sup>		\$3.00	
	Other	N/A						otal Asb. Hazard A				lump sum	\$
	of Underground Storage Tanks (UST)								Lai				☐ None Repo
ink No.		Location	/	Age			Produ	ct Stored	Size	i		Est. Rem.	
							-		-				\$ \$
						_							S
	(Sum of lines 1-3)					Total	Cost	for Removal of Un	dergr	ound St	orage Tanks		š
1 1 D		-				1						□ Addition i	Constructed after
Leau-Das	sed Paint (LBP) - Renovation Only  Estimated Cost for Abatement Contractor to Perform Lead Abatement	ement				-						L / todaton	S
	Special 3rd Party Environmental Consulting Fees												S
	(Sum of lines 1-2)							Total C	Cost fo	or Lead-	Based Paint		\$
												ı	☐ Not Applic
Fluorosa	ant Lamps & Dallaste Desycling/Incineration												La riot rippine
	cent Lamps & Ballasts Recycling/Incineration							% w/Fluorescent	Т	Unit		Total Cost	
	ding Addition							Lamps & Ballasts		Unit Cost	***	Total Cost	
			7078	Ft²							\$0.20	Total Cost	A
ea of Build	ding Addition		7078	Ft²				Lamps & Ballasts			\$0.20	Total Cost	\$1,41
other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft <sup>2</sup>				Lamps & Ballasts			\$0.20	Total Cost	\$1,41 Reported
ea of Build	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²				Lamps & Ballasts			\$0.20	Total Cost	\$1,41  Reported  Cost Estimal
other En	ding Addition (A) nvironmental Hazards/Remarks	Ĺ	7078	Ft²				Lamps & Ballasts			\$0.20	Total Cost	\$1,41  Reported  Cost Estima
other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²				Lamps & Ballasts			\$0.20	Total Cost	\$1,41  Reported  Cost Estima
Other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²				Lamps & Ballasts			\$0.20	Total Cost	\$1,41 Reporter Cost Estima
of Build  Other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²				Lamps & Ballasts	Tota	Cost	\$0.20		\$1,41  Reporter  Cost Estima
Other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²				Lamps & Ballasts	Tota	Cost		vironmental	\$1,41 Reported Cost Estima
Other En	ding Addition (A) nvironmental Hazards/Remarks		7078	Ft²	Tol	al Coc		Lamps & Ballasts		Cost		vironmental	\$1,41  Reporter  Cost Estima

Post 1980 additions reportedly non-asbestos containing per architect requirements

(A) All Classrooms & Hallways reported T8 Lamps

#### ERA tech Environmental, Inc.

18-9929 Project #

Hazardous Building Material Removal Cost Estimate

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

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Oakwood City Schools

Oakwood High School 12/6/2018 Facility:

	12/6/2018									
Facility:	Oakwood High School	1922		1922	1932	1959	1969	1989	2003	Total
		Original	-	Auditorium	Original	Science	Fitness	Elevator	Addition	
A. Asbest	A. Asbestos containing material (ACM) 1 AFM = asbestos free material									
ACM Four		Estimated Cost	ost	Estimated Cost						
,	Boiler/Furnace Insulation Removal (\$10-\$45/ft2)	\$45.00	0.00	00:0	0.00	0.00	0.00	0.00	0.00	0.00
2	Breeching Insulation Removal (\$10-\$20)	\$20.00	00.00	0.00	0.00	0.00	00:0	00:00	0.00	0.00
6	Tank Insulation Removal (\$8-\$18)	\$18.00	00.00	00.0	0.00	0.00	0.00	00:00	0.00	00'0
4	Duct Insulation Removal	\$16.00	00.0	0.00	00:0	0.00	0.00	00:00	0.00	0.00
ď	Pipe Insulation Removal	\$30.00	45000.00	00:0	63000.00	0.00	0.00	00:00	0.00	108000.00
9	Dine Etting Insulation Removal	\$25.00	9375.00	0.00	18000.00	0.00	0.00	00:00	0.00	27375.00
7	Ploe Insulation Removal (Crawlenge-Tinnel)	\$45.00	4500.00	0.00	00.0006	0.00	0.00	00:00	0.00	13500.00
00	Ploe Efficial Rem (CrawlanacelTume)	\$50.00	1000.00	0.00	3250.00	0.00	0.00	00:00	00:00	4250.00
o	Pine Insulation Removal (Hidden in Walls/Ceiling)		24000.00	2250.00	12000.00	9450.00	00:0099	00:00	0.00	54300.00
10	Dismantling of Bollev/Furnace/Incinerator		00.0	0.00	4000.00	0.00	0.00	00:00	0.00	4000.00
11	Flexible Duct Connection Removal	\$100.00	200.00	00:00	1000:00	0.00	100.00	00:00	0.00	1600.00
12	Acoustical Plaster Removal	\$12.00	34800.00	00:0	00:0	0.00	0.00	00:0	0.00	34800.00
13	Firenzoofing Removal	\$30.00	0.00	00:0	00:0	0.00	0.00	00:00	0.00	0000
14	Hard Plaster Removal	\$10.00	00.0	00'0	0.00	0.00	0.00	00'0	0.00	00'0
15	Guerra Roard Removal	\$8.00	0.00	0.00	0.00	00:00	00.0	0.00	0.00	0.00
16	Acoustical Panel Tile Celling Removal	\$3.00	00.00	00:00	00:00	0.00	0.00	00:00	0.00	0.00
17	I aboratory Table/Counter Ton Removal	\$150.00	0.00	00'0	0.00	24000.00	0.00	0.00	00'0	24000.00
18	Asbestos Cement Board Removal (Transite-like)	\$6.00	120.00	0.00	0.00	840.00	0.00	00:0	0.00	00'096
10	Flectric Cord Insulation Removal	\$1.00	0.00	900'005	00'0	0.00	0.00	00:0	0.00	900.00
20	Light (Reflector) Fixture Removal	\$75.00	00.00	00:0	00:00	0.00	00.0	00:0	00:00	0.00
21	Sheet Flooring with Friable Backer Removal	\$4.00	00'0	00:00	00:00	0.00	0.00	00:00	00:00	0.00
32	Fire Door Removal	\$100.00	1000.00	700.00	2200:00	1700.00	200.00	00:00	0.00	6100.00
23	Door & Window Panel Removal	\$100.00	0.00	00:00	0.00	0.00	0.00	0.00	0.00	0.00
24	Decontamin of Crawlspace/Chase/Tunnel	\$6.00	0.00	00:0	0.00	0.00	0.00	0.00	00:00	0.00
25	Soil Removal	\$150.00	0.00	00'0	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	00:0	00.0	72400.00
27	Window (Glazing/Putty, or Caulk)	\$300.00	300.00	2700.00	0.00	0.00	0.00	0.00	0.00	3000.00
28	Resilient Flooring Removal, Incl. Mastic - Friable	\$300.00	00.00	00:00	00:0	0.00	0.00	00:0	0.00	0.00
59	Resilient Fleering Removal, Incl. Mastic - Cat 2 Non-Friable	\$4.00	0.00	0.00	00:0	0.00	0.00	00:0	0.00	0.00
30	Carpet Mastic Removal	\$3.00	2400.00	13800.00	33300.00	0.00	3600.00	00:0	0.00	53100.00
31	Carpet Removal (over RFC)	\$1.00	14000.00	0.00	0.00	0.00	5320.00	00'0	0.00	19320.00
32	Acoustical Tile Mastic Removal /	\$5.00	0.00	0.00	0.00	0.00	0.00	00:0	0.00	0.00
33	Sink Undercoating Removal	\$100.00	800.00	00:0	00:0	0.00	0.00	00:0	00:0	800.00
34	Roofing Removal-Friable	85.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00
35	Roofing Removal-Cat 2-Non-Friable	\$3.00	0.00	00:0	0.00	0.00	0.00	00.00	00:0	0.00
36	Other		15500.00	00.00	23600.00	2000:00	2000.00	00:0	00:0	49100.00
37	(Sum of lines 1-35)		\$185,295.00	\$22,950.00	\$185,350.00	\$53,590.00	\$29,920.00	\$0.00	\$0.00	\$477,105.00
38	(Sum of lines 1-35 - Category 2 Non-Friable Floor & Roof)	Total Asb. 18	185,295.00	22,950.00	185,350.00	53,590.00	29,920.00	00.0	0.00	477,105.00
Note: Ask	Note: Asbestos Estimated Costs do not include 3rd party project design, special containment construction, testing & monitoring, etc.	ial containment construction	n, testing & monito	oring, etc.						
B. Remov	B. Removal of Underground Storage Tanks (UST)									
			60.00	00.0	000	000	000	00.0	00 0	0.00

B. Removal	B. Removal of Underground Storage Tanks (UST)								
		\$0.00	00'0	0.00	0.00	0.00	0.00	00.00	0.00
				00:00	0.00	0.00	0.00	00.00	0.00
C. Lead-Bas	C. Lead-Based Paint (LBP) - Renovation Only								0.00
ے ا	Estimated Cost for Abatement Contractor to Perform Lead Abatement	\$0.00	2000.00	2000.00	0.00	0.00	0.00	0.00	10000.00
	Special 3rd Party Environmental Consulting Fees	\$0.00	00.0005	2000.00	0.00	0.00	0.00	0.00	10000.00
	(Sum of lines 1-2)	\$0.00	10000.00	10000.00	0.00	0.00	00:00	0.00	20000.00
					0.00	0.00	0.00	00:00	0.00
. Fluoresce	D. Fluorescent Lamps & Ballasts Recycling/Incineration								0.00
rea of Buildi	Area of Building Addition	Total							00.0
		\$0.00	941.20	1000.00	200.00	800.00	55.00	1415.60	4711.80
									00'0
E. Other Env	E. Other Environmental Hazards/Remarks	Reported							0.00
Description		Cost Estimate							00'0
		\$0.00	0.00	00.00	00.00	00.00	00.00	00:00	0.00
2.		\$0.00	0.00	00.00	0.00	0.00	00:00	00.00	0.00
6		\$0.00	00.00	0.00	0.00	0.00	0.00	00:00	0.00
	(Sum of Lines 1-3)	00.02	00'0	00.00	00'0	0.00	0.00	0.00	0.00
									0.00
. Hazardous	F. Hazardous Building Material Abatement Cost Estimate Summaries								00'0
<u>.</u>	(Sum of Lines A36, B4, C3, D1, and E4)	\$185,295.00	33891.20	196350.00	24090.00	30720.00	25.00	1415.60	501816.80
2.	(Sum of Lines A37, B4, D1, and E4)	\$185,295.00	33891.20	196350.00	54090.00	30720.00	25.00	1415.60	501816.30

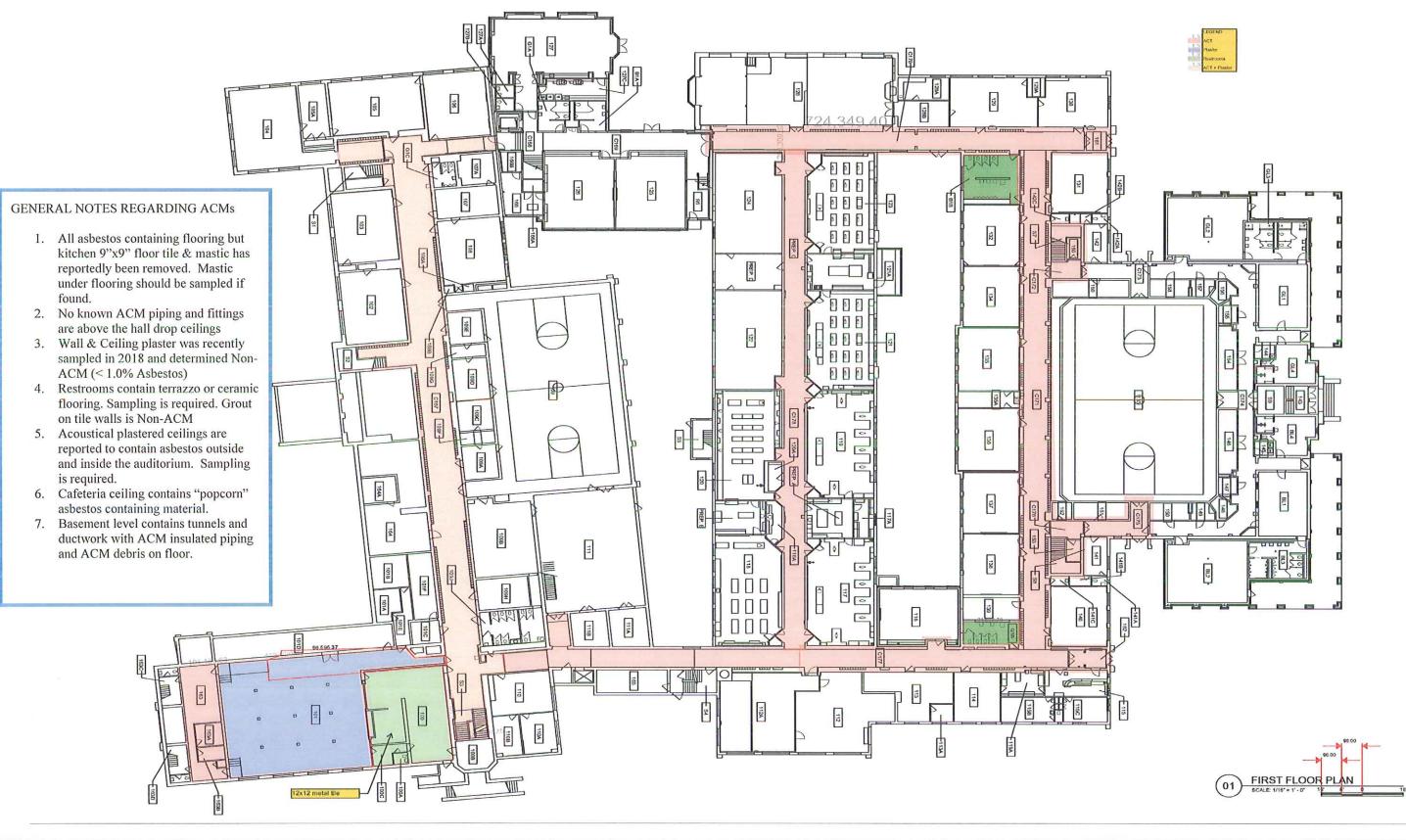
Comments: \*- This Hazardous Bidg Material Removal Cost Estimate is designed to complement NOT REPLACE documentation from the Ohio School Facilities Commission

# ERA tech Environmental, Inc.

Hazardous Building Material Removal Cost Estimate

C:\Users\diohn\Documents\Dakwood Schook\118-9929 COMB Oakwwod HS & Ir HS Haz Mat Mari Abarement cost extimate spreadsheer (DMK 11-22-18) (Autosaved).xkx\Summary of Cost Estimates

**APPENDIX D** FLOOR PLANS





OAKWOOD CITY SCHOOLS

PROJECT
OAKWOOD HIGH SCHOOL
BASELINE ASBESTOS SURVEY

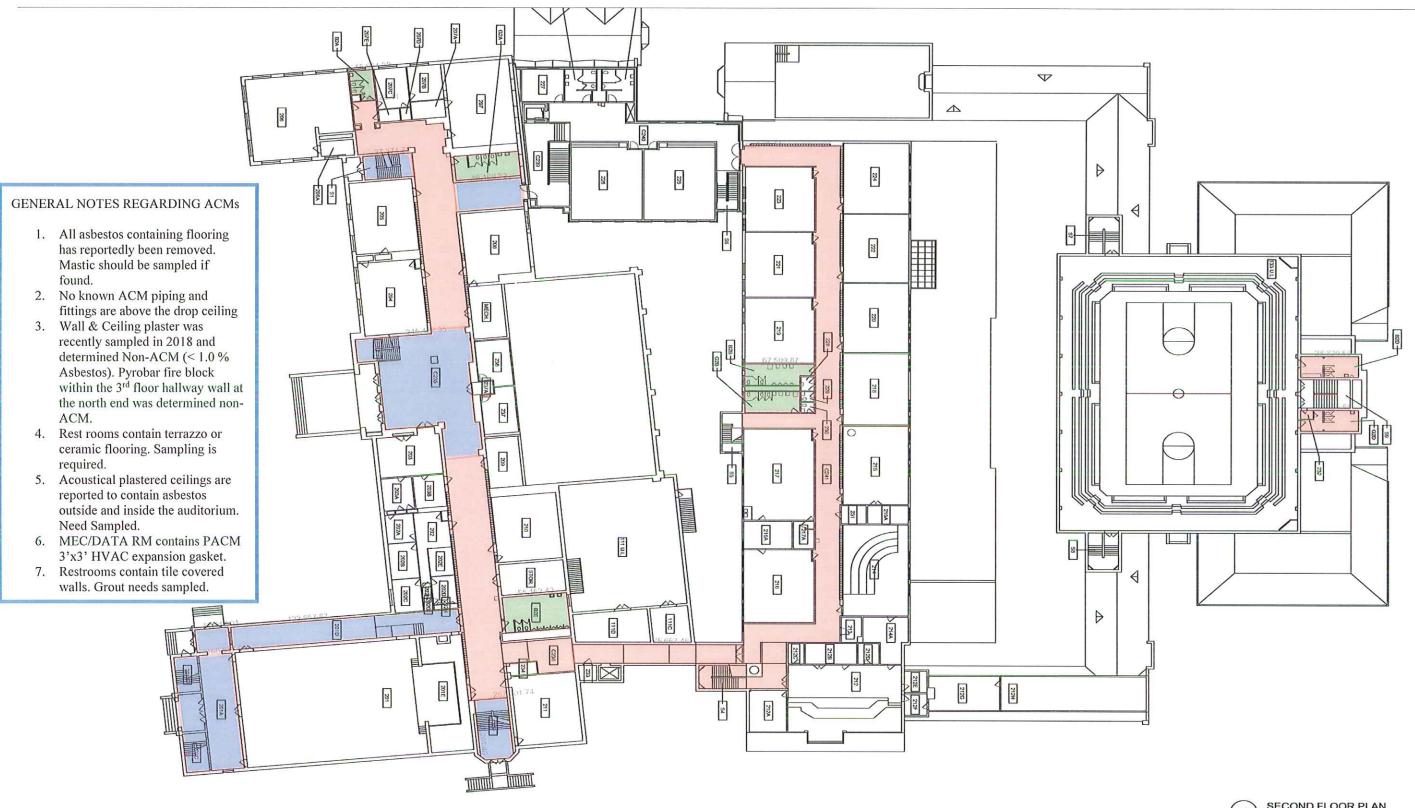
DRAWING TITLE
FIRST FLOOR
AS PROVIDED BY FANNING HOWEY

<u>Date:</u> 9-6-18 12-6-18

Dwn. By:

Scale: NTS

Drawing: OHS-ACM-1









CLIENT
OAKWOOD CITY SCHOOLS

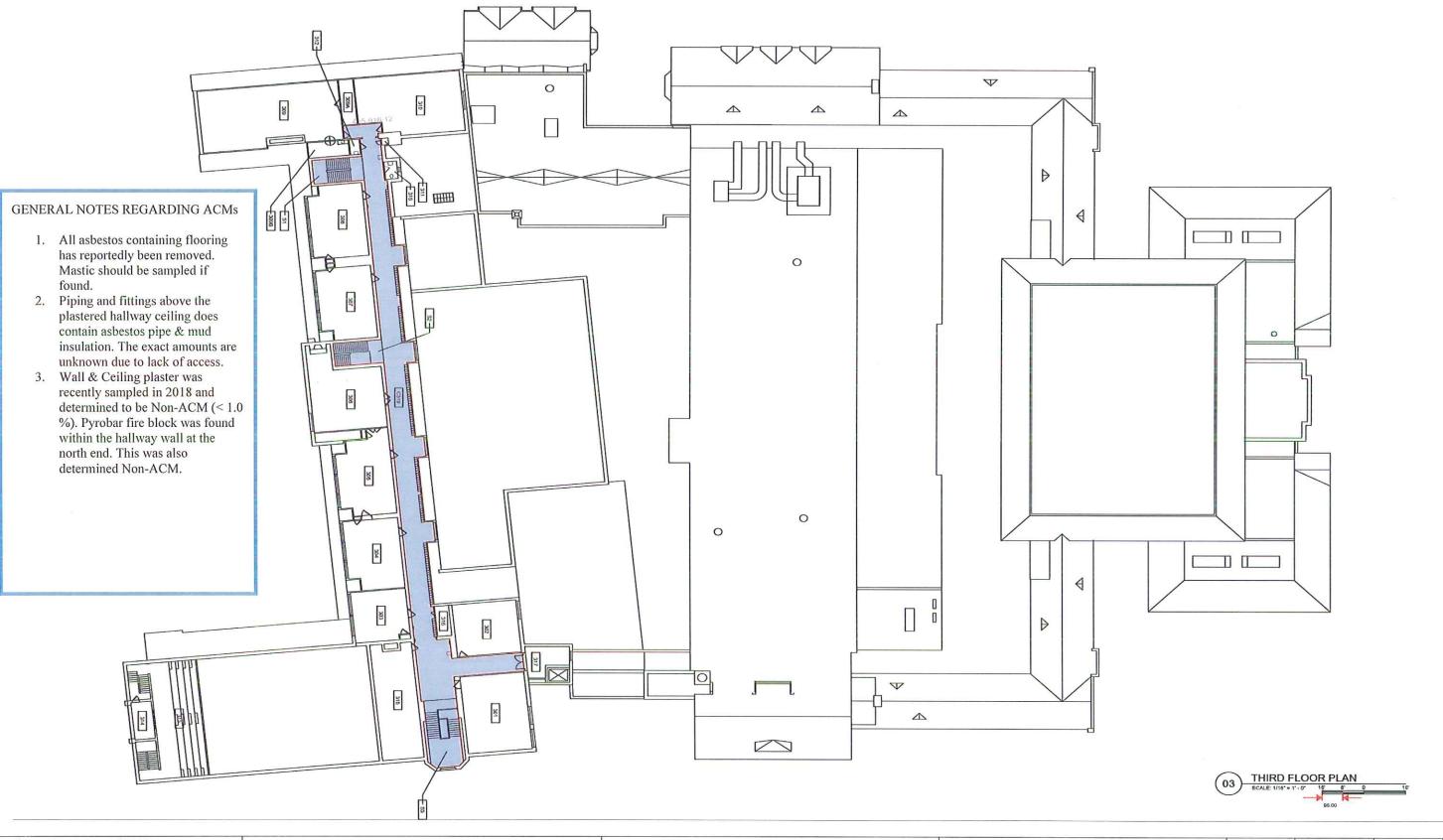
PROJECT
OAKWOOD HIGH SCHOOL
BASELINE ASBESTOS SURVEY

DRAWING TITLE
SECOND FLOOR
AS PROVIDED BY FANNING HOWEY

<u>Date:</u> 9-6-18 12-6-18 Dwn. By:

Scale: NTS

Drawing: OHS-ACM-2





<u>CLIENT</u> OAKWOOD CITY SCHOOLS

PROJECT
OAKWOOD HIGH SCHOOL
BASELINE ASBESTOS SURVEY

DRAWING TITLE
THIRD FLOOR
AS PROVIDED BY FANNING HOWEY

Date: 9-6-18 fh 12-6-18

Dwn. By:

Scale: Drawing:
NTS OHS-ACM-3

**APPENDIX E** RESUMES