



HZW
Environmental
Consultants

October 25, 2019

Mr. Chuck Kessler
Enviroscience, Inc.
5070 Stow Road
Stow, Ohio 44224

Subject: Report of Findings of an Asbestos Survey Conducted of the East 98th Street Bridge over Interstate 480 Located in Garfield Heights, Cuyahoga County, Ohio (CUY-480-19.550, SFN 1812556) (HZW Project No. H19336)

Dear Mr. Kessler:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter report that presents the findings of an asbestos survey conducted at the East 98th Street bridge over Interstate 480 located in Garfield Heights, Ohio, herein referred to as the “subject bridge”. As indicated by Enviroscience, Inc. (the Client), the purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject bridge prior to manual demolition activities being performed. A highway map documenting the location of the subject bridge is included as **Attachment 1**. Discussions of the methods of investigation, the findings and recommendations are provided separately below.

Methods of Investigation

General

Initially, as part of the asbestos survey, HZW requested the original construction plans for the subject bridge from the Client to assist in identifying ACMs and suspect ACMs used during construction. The original construction plans for the bridge were submitted to HZW by the Client and, therefore, were reviewed by HZW prior to performing the physical inspection of the bridge.

Subsequent to this review, a representative of HZW, certified by the Ohio Environmental Protection Agency (OEPA) as an Asbestos Hazard Evaluation Specialist (AHES), performed a physical inspection of the subject bridge to visually identify and sample accessible building materials suspected of containing asbestos. The asbestos survey of the subject bridge was conducted in accordance with the Environmental Protection Agency’s (EPA) National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey of the subject bridge was conducted in accordance with AHERA protocol.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each homogeneous area/building material suspect for containing asbestos into one (1) of three (3) categories, based on the material’s ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as “friable”), prior to performing the bulk sampling activities. These three (3) categories are as follows:

Surfacing Materials	Thermal System Insulation (TSI)	Miscellaneous Friable and Nonfriable Materials
Examples include fireproofing and acoustical plaster.	Examples include, but are not limited to pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.	Examples of miscellaneous friable materials include, but are not limited to ceiling tile, drywall and joint compound. Examples of nonfriable materials include, but are not limited to, floor tile and mastic, roofing materials and transite.

Once categorized, HZW subsequently determined the quantity of each homogeneous area/building material. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject bridge consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HZW collects a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material is between 1,000 and 5,000 ft², then HZW collects a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material is greater than 5,000 ft², then HZW collects a minimum of seven (7) samples from this area/material.
- For TSI, HZW either assumes the suspect material contains asbestos or collects at least three (3) bulk samples from each specific homogeneous area/material identified.
- For Miscellaneous Friable Materials and Nonfriable Materials, the number of bulk samples HZW collects of these materials is at the discretion of the inspector and in a “manner sufficient” to prove the asbestos content of the material.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines:

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

Analytical Laboratory

Any bulk samples collected were submitted to CA Labs, LLC of Baton Rouge, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. If applicable, buildings materials identified by PLM as containing two (2) percent asbestos or less were subsequently analyzed by 400 Point Count Methodology

ASBESTOS REGULATIONS

Federal Regulations

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) regulates all renovation and demolition work involving buildings materials which contain any amount of asbestos. Buildings owners and/or contractors who perform renovation and/or demolition activities which disturb buildings materials identified as containing asbestos are required to conduct these activities in accordance with OSHA's Asbestos Standard. An asbestos-containing material (ACM), as defined by OSHA and the EPA, is any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).

The Asbestos NESHAP (40 C.F.R. Part 61, Subpart M) regulates which ACMs must be removed prior to renovation and demolition activities being performed. If the quantity of regulated ACMs (RACMs) to be disturbed as part of a renovation or demolition activity meets or exceeds 160 square feet on facility components, 260 linear feet on pipes or 35 cubic feet off facility components, then the activity would be regulated under the Asbestos NESHAP. RACMs are defined as 1) friable ACMs, 2) Category I Nonfriable ACMs that has become friable, 3) Category I Nonfriable ACMs that will be or have been subjected to sanding, grinding, cutting or abrading, or 4) Category II Nonfriable ACMs that have a high probability of becoming or have become crumbled, pulverized, or reduced to powder by the forces expected to act on the materials in the course of the demolition or renovation activities. A friable ACM is a material that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Examples of friable ACMs consist of asbestos-containing pipe insulation, fireproofing, and ceiling tile. Examples of Category I Nonfriable ACMs consist of asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products. Examples of Category II Nonfriable ACMs consist of any material, excluding Category I Nonfriable ACMs.

State Regulations

The Ohio EPA Asbestos regulations are under Chapter 3745-20 and 3745-22 of the Ohio Administrative Code (OAC) also referred to as the "Emission Control Rules". Chapter 3745-20 is nearly identical to the Asbestos NESHAP, 40 CFR, Part 61, Subpart M, cited above. Chapter 3745-22 is the former Ohio Department of Health asbestos "Licensing Rules", which on January 1, 2018, were adopted by the Ohio EPA. Chapter 3745-22 encompasses the rules governing asbestos hazard abatement contractors, specialists, project designers, workers, and training courses.

Under the Asbestos NESHAP and Ohio EPA Asbestos regulations the “Notification of Demolition and Renovation/Abatement” form is required to be submitted ten (10) days prior to any of the following activities being performed:

- Demolition of a facility, regardless of whether asbestos is involved. This includes all structure that will be intentionally burned for fire training purposes.
- Renovation of a facility when the amount of RACM stripped, removed, dislodged, cut, drilled, or similarly disturbed exceeds 260 linear feet on pipes or 160 square feet on other facility components or 35 cubic feet off facility components.
- Abatement at a facility when the activity involves the removal, renovation, enclosure, repair or encapsulation of *friable* ACMs in an amount greater than 50 linear feet on pipes or 50 square feet on other facility components.

FINDINGS AND DISCUSSION

The findings of the asbestos survey conducted at the subject bridge are presented below. These findings are based on HZW’s review of the construction plans, physical inspection of the bridge and the analytical results for any bulk samples collected. A photographic log compiled during the physical inspection; a site sketch depicting the bridge and bulk sampling locations; and a copy of the laboratory analytical report for the bulk samples collected at the bridge are included as **Attachments 2 through 4, respectively**.

Construction Plan Review

HZW reviewed construction plans dated December 5, 1974 (Pages 1, 4-6, 11, 14-20, 25-36, 40-50). It should be noted that these construction plans were not specific to the subject bridge but were reviewed due to the construction work being directly adjacent to the bridge limits. Based on our review of the construction plans, three (3) suspect ACMs were identified. It should be noted that the suspect building materials identified during the construction plan review were considered suspect materials based on the assumption that these materials are coated or comprised of an ACM, physically contain ACM, or are identified by their description as an “asbestos” material. The suspect materials identified during the construction plan review consisted of the following:

1. Joint Seal – running length of bridge deck. The joint seal is considered suspect for containing asbestos. The quantity of this suspect material located on the bridge structure is unknown.
2. Prefomed Sealer – located in transverse joints. The prefomed sealer is considered suspect for containing asbestos. The quantity of this suspect material located on the bridge structure is unknown.
3. Prefomed expansion joint filler – located in transverse joints. The prefomed expansion joint filler is considered suspect for containing asbestos. The quantity of this suspect material located on the bridge structure is unknown.

It should be noted that all suspect building materials identified during the construction plan review are assumed to contain asbestos until they can be accessed and physically touched and inspected and rendered non-suspect building materials and/or sampled and subsequently analyzed by polarized light microscopy and found not to contain greater than one (1) percent asbestos.

Physical Inspection

During the physical inspection of the bridge, HZW could not locate Item Nos. 1 through 3 identified during the construction plan review. However, four (4) suspect ACMs were visually identified during the physical inspection. These suspect materials consisted of the following:

ID	Suspect Material/Condition	Location	Sample No.	Asbestos Content (Percent)	Quantity of ACM Identified
A	Caulk - Black Fair Condition	Topside of Bridge: Parapet Wall Fence Base	01	ND	NA
			02	ND	
B	Foam Gasket – Gray Fair Condition	Topside of Bridge: Between Parapet Wall Slabs	03	ND	NA
			04	ND	
C	Fibrous Column Wrap Fair Condition	Underside of Bridge: At Base of North End Columns	05	ND	NA
			06	ND	
D	Cementitious Conduit – 6-inch diameter Fair Condition	Underside of Bridge: Running Length of Bridge on East Side	01	20	1,062 ln.ft. (3 Conduits)
			02	NA	

ND = None Detected; NA = Not Applicable

Limitations of Survey

During the physical inspection of the bridge, access could not be obtained to the electrical boxes located in the parapet walls of the subject bridge.

RECOMMENDATIONS

Based on the findings from the asbestos survey conducted at the subject bridge, the following recommendations are presented for consideration:

1. Notify any outside contractor(s), prior to them working on the subject bridge, of the presence of the asbestos-containing cementitious conduit. In addition, even though not identified on the bridge structure during the physical inspection, the suspect building materials identified during the construction plan review may still be present on the structure; hence outside contractor(s) should be notified that these suspect building materials may be present on the bridge structure.
2. If renovation activities have the potential to disturb the asbestos-containing cementitious conduit identified at the subject bridge, then a licensed asbestos abatement contractor should be retained to abate this material prior to it being disturbed.

3. Submit the Ohio EPA "Notification of Demolition and Renovation" form to the Ohio EPA 10 days prior to any of the following activities being performed.
 - Demolition of a facility, regardless of whether asbestos is involved. This includes all structure that will be intentionally burned for fire training purposes.
 - Renovation of a facility, when the amount of RACM stripped, removed, dislodged, cut, drilled, or similarly disturbed exceeds 260 linear feet on pipes or 160 square feet on other facility components or 35 cubic feet off facility components.
 - Abatement at a facility, when the activity involves the removal, renovation, enclosure, repair or encapsulation of friable ACM in an amount greater than 50 linear feet on pipes or 50 square feet on other facility components.

HZW has completed a copy of the OEPA's Notification form for the subject bridge. Only the asbestos-containing cementitious conduit is quantified on the OEPA Notification form. A copy of the completed form is included as **Attachment 5**.

4. If the asbestos-containing cementitious conduit is to remain in place, implement an operations and maintenance (O&M) program whereby this material is continually evaluated and maintained by trained personnel.

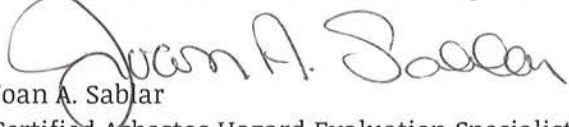
HZW appreciates the opportunity you have given us to provide professional services to Enviroscience, Inc. Should you have any questions regarding the information presented in this letter report, please do not hesitate to contact us.

Sincerely,


HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Certified Asbestos Hazard Evaluation Specialist (OEPA Licensed No. ES33794)


Joan A. Sablar

Certified Asbestos Hazard Evaluation Specialist (OEPA Licensed No. ES31228)

CR:cr\jas\H19336

Attachments

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ATTACHMENT 1

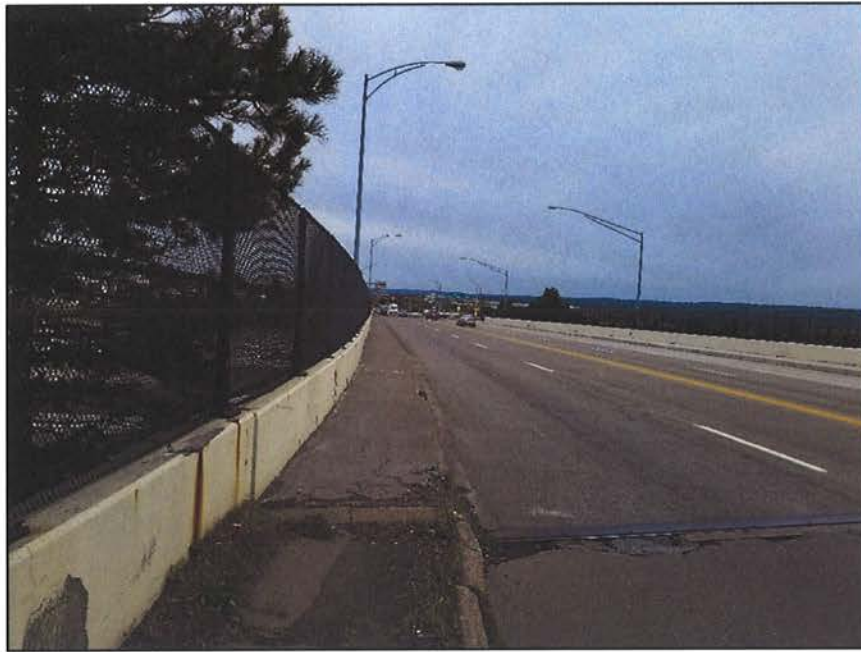
- AERIAL PHOTOGRAPH DOCUMENTING THE BRIDGE LOCATION



**Aerial of the East 98th Street Bridge over Interstate 480
Garfield Heights, Ohio**

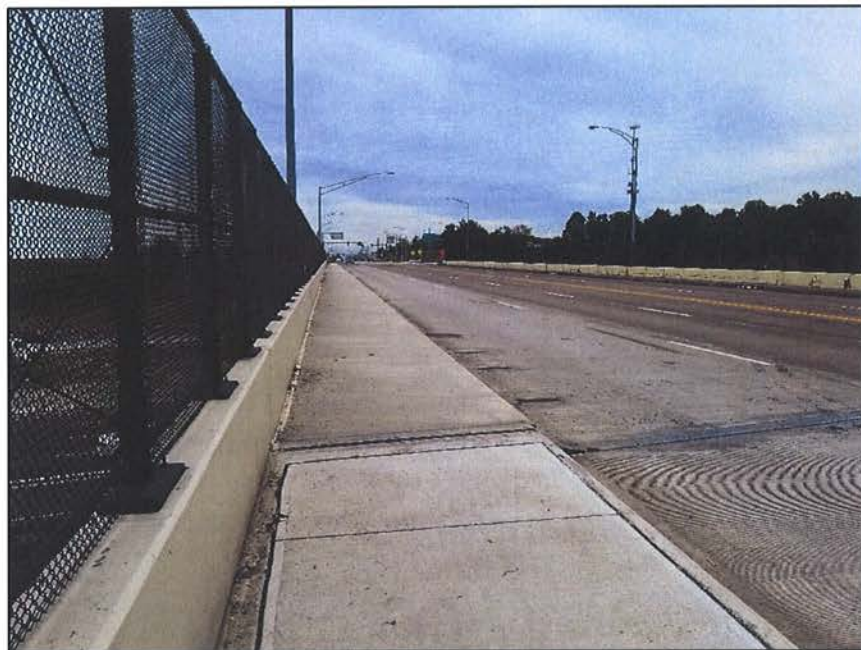
ATTACHMENT 2

➤ **PHOTOGRAPHIC LOG**



Photograph 01

View Looking South at the Top of the East 98th Street Bridge over Interstate 480,
Garfield Heights, Cuyahoga County, Ohio



Photograph 02

View Looking North at the Top of the East 98th Street Bridge over Interstate 480,
Garfield Heights, Cuyahoga County, Ohio



Photograph 03

View Looking Southwest at the Underside of the East 98th Street Bridge over Interstate 480, Garfield Heights, Cuyahoga County, Ohio



Photograph 04

View Looking Northeast at the Underside of the East 98th Street Bridge over Interstate 480, Garfield Heights, Cuyahoga County, Ohio

ATTACHMENT 3

- SITE SKETCH OF BRIDGE



HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road • Mentor, Ohio 44060
Phone 440-357-1260 • 800-804-8484
Fax 440-357-1510
A Woman-Owned Business Enterprise

PROJECT East 90th Street over 480 Bridge

PROJECT NO. H19236

PAGE NO. 2

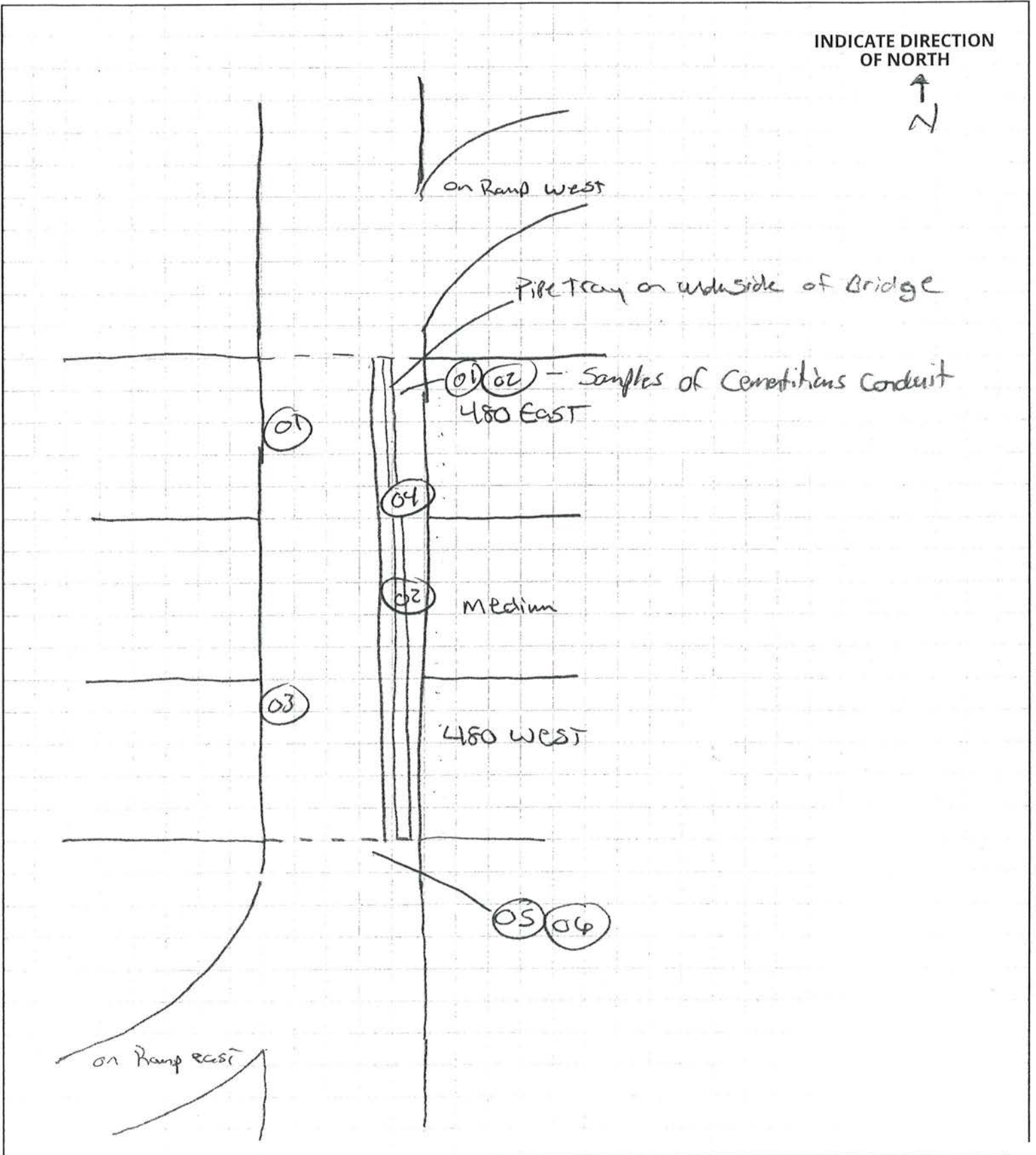
OF 2

FIELD REPRESENTATIVE CR

DATE 10/24/19

SCALE (M)

INDICATE DIRECTION
OF NORTH



ATTACHMENT 4

- LABORATORY ANALYTICAL REPORT

CA Labs
Dedicated to
Quality

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634



NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

HZW Environmental Consultants

6105 Heisley Rd.
Mentor, OH 44060

Attn: Joan Sablar

Customer Project: East 98th Street over 480 Bridge

Reference #: CBR19105706

Date: 10/15/2019

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved)). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are performed. Calibrated liquid refractive oils are used as liquid mounting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjunction with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found by PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

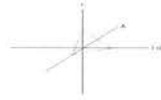
Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one of these disciplines. Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

CA Labs
Dedicated to
Quality

CA Labs, L.L.C.
 12232 Industriplex, Suite 32
 Baton Rouge, LA 70809
 Phone 225-751-5632
 Fax 225-751-5634



NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project:	East 98th Street over 480 Bridge			CA Labs Project #:	CBR19105706
Sample #	Layer #	Analysts Subsample	Physical Description of	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types

No Asbestos Detected.

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

- | | | | |
|------------------|--------------|--------------------|--------------------------|
| ca - carbonate | pe - perlite | fg - fiberglass | pa - palygorskite (clay) |
| gypsum - gypsum | qu - quartz | mw - mineral wool | |
| bi - binder | | wo - wollastinite | |
| or - organic | | ta - talc | |
| ma - matrix | | sy - synthetic | |
| mi - mica | | ce - cellulose | |
| ve - vermiculite | | br - brucite | |
| ot - other | | ka - kaolin (clay) | |

This report relates to the items tested. This report is not to be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, AIHA LAP, LLC, or any other agency of the federal government. This report may not be reproduced except in full without written permission from CA Labs. These results are submitted pursuant to CA Labs' current terms and safe condition of sale, including the company's standard warranty and limitations of liability provisions and no responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, CA Labs will store the samples for a period of ninety (90) days before discarding. A shipping or handling fee may be assessed for the return of any samples.



Polarized Light Asbestiform Materials Characterization

Customer Info: Attn: Joan Sablar
HZW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Customer Project:
East 98th Street over 480
Bridge

CA Labs Project #:
CBR19105706

Turnaround Time: 5 day

Date: 10/15/2019

Samples Received: 10/9/2019

Phone # 440-357-1260

Fax # 440-357-1510

Date Of Sampling:

Purchase Order #: H19336

Sample #	Com ment	Layer #	Analysts Physical Subsample	Description of	Homo- geneo us (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
01		1	Black Sealant		Y	None Detected	2% fg	98% qu, ma, bi
02		1	Black Sealant		Y	None Detected	2% fg	98% qu, ma, bi
03		1	Gray Insulation		Y	None Detected		100% qu, ma, bi, ca
04		1	Gray Insulation		Y	None Detected		100% qu, ma, bi, ca
05		1	Gray Insulation		Y	None Detected	60% ce	40% qu, ma, bi
06		1	Gray Insulation		Y	None Detected	60% ce	40% qu, ma, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot - other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Sidney Pinkerton
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze

6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested



C.A. Labs, LLC
 12232 Industriplex
 Suite 32
 Baton Rouge, LA 70809

Phone: 225-751-5632
 Fax: 225-751-5634
 Mobile: 225-993-3471

East 98th Street over 480 Bridge

Chain of Custody

Client Name: HRW Environmental Consultants, LLC CA Labs job # CBR P1105706

Client Address: 6105 Heisley Rd Billing Address: _____
mentor, OHIO (if different) _____
44060

phone number: (440) 357-1260

fax number: (440) 357-1510 Send Reports to: M.Ferguson@HRWEnv.com

Project Number: 419336 Project Name: _____

Contact: Jean Seablar Reports Results VIA: EMAIL FAX _____ VERBAL _____

Total # Samples Submitted:	Total # Samples to be Analyzed:	Material Matrix: Air / Bulk / Water
----------------------------	---------------------------------	--

Asbestos: *please call ahead for availability of all rush and/or after hours samples.*

TEM	TA Time	PLM	TA Time	Optical / IAQ	TA Time
<i>Circle analysis and TA time</i>		<i>Circle analysis and TA time</i>	<i>2 hour</i>	Allergen Particle:	<i>2 hour</i>
AHERA	4 hour	Improved	4 hour	tape/bulk/swab	4 hour
EPA Level II	8 hour	Interim	8 hour	Cyclex-d cassettes	8 hour
Drinking Water	16 hour		16 hour	Air-o-cell cassettes	16 hour
Wipe	24 hour	AHERA	24 hour	Anderson cultures	24 hour
Micro-vac	2 days		2 days	Bulk/swab cultures	2 days
NIOSH 7402	3 days	Point Count -	3 days	Bacteria cultures	3 days
Chatfield Bulk	5 days	(NESHAPS)	5 days	PCM: NIOSH 7400	5-10 days

Lead: *Circle analysis and TA time*

Matrix:	Paint Chips	Soil	Air	Wipes	Wastewater	TCLP
TA Time:	8 hour	1 day	2 days	3 days	5 days	6-10 days

Sample Information:

Sample Number:	Sample Location:	Sample Date/Time:	Sample Volume (L)
01	Caulk		
02)		
03	Gasket		
04)		
05, 06	Column wrap		

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Custody Information:

Samples relinquished:

CLC/10-05-19/11:30 AM
 Signature / Date / Time

Samples received:

Jennifer Waters 10/6/19 10:40 AM
 Signature / Date / Time

Samples relinquished:

Signature / Date / Time

Samples received:

Signature / Date / Time

STOP AT 1ST (+) Layer / Composite / Point count when indicated
 Point count 3% or less

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Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

HzW Environmental Consultants

6105 Heisley Rd.
Mentor, OH 44060

Attn: Joan Sablar

Customer Project: East 98th Street Bridge over State Route 480

Reference #: CBR19105902

Date: 10/21/2019

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NVLAP #200772-0
 TDSHS #300370
 CDPHE #AL-18111
 LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: East 98th Street Bridge over State Route 480 **CA Labs Project #:** CBR19105902

Sample #	Layer #	Analysts	Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
----------	---------	----------	-----------------------------------	--	--

01	1		Gray Transite	20% Chrysotile	Gray Transite
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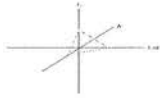
Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

- | | | | |
|------------------|--------------|--------------------|--------------------------|
| ca - carbonate | pe - perlite | fg - fiberglass | pa - palygorskite (clay) |
| gypsum - gypsum | qu - quartz | mw - mineral wool | |
| bi - binder | | wo - wollastinite | |
| or - organic | | ta - talc | |
| ma - matrix | | sy - synthetic | |
| mi - mica | | ce - cellulose | |
| ve - vermiculite | | br - brucite | |
| ot - other | | ka - kaolin (clay) | |

This report relates to the items tested. This report is not to be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, AIHA LAP, LLC, or any other agency of the federal government. This report may not be reproduced except in full without written permission from CA Labs. These results are submitted pursuant to CA Labs' current terms and sale, condition of sale, including the company's standard warranty and limitations of liability provisions and no responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, CA Labs will store the samples for a period of ninety (90) days before discarding. A shipping or handling fee may be assessed for the return of any samples.

CA Labs
Dedicated to
Quality

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634



NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: Attn: Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Customer Project:
East 98th Street Bridge over
State Route 480
Turnaround Time: 4 hr

CA Labs Project #:
CBR19105902
Date: 10/21/2019
Samples Received: 10/21/2019
Date Of Sampling:
Purchase Order #: H19336

Phone # 440-357-1260
Fax # 440-357-1510

Sample #	Com ment	Layer #	Analysts Physical Description of Subsample	Homo- geneo us (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
01		1	Gray Transite	Y	20% Chrysotile		80% qu, ma, ca
02		1	Gray Transite	Y	Positive Stop		

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot - other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Daniel LaCour
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages affecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze

6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

C.A. Labs, LLC.
 12232 Industriplex
 Suite 32
 Baton Rouge, LA 70809

Phone: 225-751-5632
 Fax: 225-751-5634
 Mobile: 225-993-3471

Shipping \$20.00

East 98th Street Bridge over
 Chain of Custody State Route 480

Client Name: H2W Environmental Consultants, LLC CA Labs job # CBR 19105902
 Client Address: 6105 Heistley Rd Billing Address: _____
mentor, Ohio (if different) _____
44060
 phone number: (440) 357-1260 Send Reports to: M.Ferguson@H2WEnv.com
 fax number: (440) 357-1510 Project Name: _____
 Project Number: 19334 Reports Results
 Contact: Jean Seablar VIA: EMAIL FAX _____ VERBAL _____

Total # Samples Submitted:	Total # Samples to be Analyzed:	Material Matrix: Air / Bulk / Water
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Asbestos: *please call ahead for availability of all rush and/or after hours samples.*

TEM	TA Time	PLM	TA Time	Optical / IAQ	TA Time
<i>Circle analysis and TA time</i>		<i>Circle analysis and TA time</i>	<i>2 hour</i>	Allergen Particle:	<i>2 hour</i>
AHERA	4 hour	Improved	4 hour	tape/bulk/swab	4 hour
EPA Level II	8 hour	Interim	8 hour	Cyclex-d cassettes	8 hour
Drinking Water	16 hour		16 hour	Air-o-cell cassettes	16 hour
Wipe	24 hour	AHERA	24 hour	Anderson cultures	24 hour
Micro-vac	2 days		2 days	Bulk/swab cultures	2 days
NIOSH 7402	3 days	Point Count	3 days	Bacteria cultures	3 days
Chatfield Bulk	5 days	(NESHAPS)	5 days	PCM: NIOSH 7400	5-10 days

Lead: *Circle analysis and TA time*

Matrix:	Paint Chips	Soil	Air	Wipes	Wastewater	TCLP
TA Time:	8 hour	1 day	2 days	3 days	5 days	6-10 days

Sample Information:

Sample Number:	Sample Location:	Sample Date/Time:	Sample Volume (L)
01	Cement keys pipe		
02			

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Custody Information:
 Samples relinquished:

[Signature]
 Signature / Date / Time
10/10-10-19/8:20

Samples received:

[Signature]
 Signature / Date / Time
10/21/19 10:20 AM

Samples relinquished:

Signature / Date / Time

Samples received:

Signature / Date / Time

STOP AT 1ST (+)
 Layer / Composite / Point count when indicated
 Point count 3% or less

ATTACHMENT 5

- OEPA NOTIFICATION FORM



Notification of Demolition and Renovation/Abatement

Section 1: General Information

Division of Air Pollution Control

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at epa.ohio.gov/asbestos. This form can be completed, and payment made, at ebiz.epa.ohio.gov. Questions? asbestos@epa.ohio.gov or (614) 466-0061.

Ohio EPA Use Only	Notification #:	Postmarked: / /	Received: / /	<input type="checkbox"/> Hand-Delivered
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1) Notification Information (Check all that apply)

<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Revision # (count):	<input type="checkbox"/> Installation	<input type="checkbox"/> Emergency	<input type="checkbox"/> Annual	<input type="checkbox"/> Cancellation	Project County: Cuyahoga County
<input type="checkbox"/> NESHAP Residential Exemption						

2) Owner, Asbestos Abatement Contractor, Billing and Fire Department Information

Revised?

Owner		
Name: Ohio Department of Transportation		Is this a company? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Address: 5500 Transportation Boulevard		Contact Person: Mark Carpenter
City: Garfield Heights	State: Ohio	Zip: 44125 -
Email: Mark.Carpenter@dot.state.oh.us	Phone: (216) 584 - 2089	Fax: () -
Asbestos Abatement Contractor (if applicable)		
Name:	License #: AC	Expiration Date: / /
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -
Billing Contact (Entity paying for original notification)		
Is this contact associated with the <input type="checkbox"/> Owner, <input type="checkbox"/> Asbestos Abatement Contractor, or <input type="checkbox"/> Demolition Contractor (if not installation)?		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -
Fire Department (if applicable)		
Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

3) Ohio Asbestos Hazard Evaluation Specialist and Evaluation Procedure

Revised?

Evaluation Specialist: Carmen Rocco	Certification #: ES 33794	Expiration Date: 07 / 26 / 2020
Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of regulated asbestos-containing material (RACM) and Category I and Category II non-friable asbestos-containing material: <input checked="" type="checkbox"/> PLM <input type="checkbox"/> Point Count <input type="checkbox"/> TEM <input type="checkbox"/> Other Method (Explain Below):		
NESHAP Asbestos Survey		

4) Procedures to be followed should unexpected RACM be discovered (check all that apply)

Revised?

<input checked="" type="checkbox"/> Stop work and keep wet	<input checked="" type="checkbox"/> Evacuate area	<input checked="" type="checkbox"/> Demarcate area	<input checked="" type="checkbox"/> Contact licensed abatement contractor
<input type="checkbox"/> Contact district office/local air authority			
<input type="checkbox"/> Other (Explain):			

5) Planned Demolition (check all that apply)

Revised?

Describe demolition work to be performed and method(s) to be employed, including demolition techniques to be used:	
<input type="checkbox"/> Implosion <input type="checkbox"/> Fire Training <input checked="" type="checkbox"/> Wet Methods <input checked="" type="checkbox"/> Manual Demolition <input checked="" type="checkbox"/> Mechanical Demolition <input type="checkbox"/> Other (Explain):	

Notification of Demolition and Renovation/Abatement

Section 1: General Information

Continued

Mail completed form and payment to:
Ohio EPA, DAPC – Asbestos
P.O. Box 1049, Columbus, OH 43216-1049

Description of affected facility components (include attachment if necessary):

6) Asbestos Description and Engineering Controls (if asbestos is being abated) Revised?

For the material listed in each project, describe the type(s) of ACM to be abated, engineering controls and work practices to be used to minimize emissions and ensure proper waste handling:

Type of ACM to be abated:	<input type="checkbox"/> Surfacing	<input type="checkbox"/> Mechanical	<input checked="" type="checkbox"/> Other Cementitious Conduit	
Engineering Controls:	<input checked="" type="checkbox"/> Wet Methods	<input type="checkbox"/> Glove Bag	<input type="checkbox"/> NPE	<input type="checkbox"/> AFD
Work Practices:	<input checked="" type="checkbox"/> Intact Removal	<input type="checkbox"/> Manual	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Other:

7) Asbestos Waste Transporter (if applicable) Revised?

Transporter #1 Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -
Transporter #2 Name (if applicable):		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

8) Asbestos Waste Disposal Site (if applicable) Revised?

Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

9) Emergency Demolition (complete if you checked "Emergency" above and "Demolition" for any project) Revised?

A copy of the issued order, including the following information, must be attached to this notification.	
Government Official Issuing Order:	Title:
Agency:	Authority of Order (Citation of Code):
Date of Order: / /	Demolition Date: / /

10) Emergency Renovation/Abatement (complete if you checked "Emergency" above and "Renovation/Abatement" for any project) Revised?

Date of Emergency: / /	Time of Emergency: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
Description of Sudden, Unexpected Event:	
Explanation of how the event caused unsafe conditions or equipment damage:	

11) Attestation Revised?

In accordance with Ohio Administrative Code rule 3745-20-03(A)(4)(p), I certify that at least one person trained as required by paragraph (B) of rule 3745-20-04 of the Administrative Code will supervise the stripping and removal described by this notification. I acknowledge that the submission of false or misleading statements is prohibited by law and I certify that facts contained in this notification are true, accurate, and complete.

Signature:	Date: / /
Name:	Title:
Organization:	



Notification of Demolition and Renovation/Abatement

Section 2: Project Address Specific Information

Division of Air Pollution Control

Please complete Section 2 for the address included with this notification. If the project is an "Installation" per OAC 3745-20, complete a separate Section 2 page for each address associated with this notification.

Ohio EPA Use Only	Project ID #: _____
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A. Facility Description Revised?

Building Name (if applicable): CUY-480-19.550 SFN 1812556		Site Location (specific): East 98th Street Bridge over Interstate 480	
Address: East 98th Street, Cuyahoga County, Coordinates: 41.412181, -81.615806			
City: Garfield Heights		State: OH	Zip: -
Building Size (square feet): NA		No. of Floors: NA	
		Age: 74, orig.	
Present Use: Misc. Highway Bridge		Prior Use: Misc. Highway Bridge	

B. Type of Operation (check all that apply) Revised?

<input checked="" type="checkbox"/> Demolition	<input type="checkbox"/> Renovation/Abatement – Type: <input type="checkbox"/> Removal <input type="checkbox"/> Repair <input type="checkbox"/> Encapsulation <input type="checkbox"/> Enclosure
--	--

C. Asbestos Present (check one) Revised?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> No, previously abated	Year Abated: _____
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D. Approximate Amount of Asbestos-Containing Materials (complete table below and Section 1 #6 if asbestos is present) Revised?

	Material to be Removed		Material NOT to be Removed		
	RACM	Non-friable Asbestos-Containing Material		Non-friable Asbestos-Containing Material	
		Category I	Category II	Category I	Category II
Pipes (linear feet)		1,062			
Surface area on other facility components (ft ²)					
Volume if length or area cannot be measured (ft ³)					

E. Asbestos Abatement Schedule and Abatement Specialist (original notification is required 10 working days prior to the start of work) Revised?

Setup Date: / /		Abatement Date: / /			Complete Date: / /		
(Shift 1) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:				Certification #: AS		Expiration Date: / /	
(Shift 2) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:				Certification #: AS		Expiration Date: / /	

F. Demolition Contractor (if applicable) Revised?

Name:			
Address:		Contact Person:	
City:		State:	Zip: -
Email:		Phone: () -	Fax: () -

G. Demolition Schedule (original notification is required 10 working days prior to the start of work) Revised?

Start Date: / /	Complete Date: / /
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H. Project Hold Revised?

Hold Begin Date: / /	Work Resume Date: / /
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