



October 27, 2016

200753 – AIS R1 Wix-Brown Elementary

**School District #35 (Langley)**

20260 – 64<sup>th</sup> Avenue

Langley, BC

V2Y 1N3

**E-mail:** [KWagner@sd35.bc.ca](mailto:KWagner@sd35.bc.ca)

**Attention:** Karen Wagner

**Reference:** Asbestos Inventory Survey of Wix-Brown Elementary, 23851 – 24<sup>th</sup> Avenue, Langley, BC

**Introduction**

TSS Total Safety Services, Inc. (Total Safety), (formerly Pacific Environmental Consulting), has, in accordance with your request, completed an Asbestos Inventory Survey of the above referenced school on September 12, 2016. The purpose of the survey was to update previous surveys on the presence and location(s) of asbestos containing building materials. Previous surveys have been conducted by Pacific Environmental Consulting on April 28, 2006 and information from that survey is incorporated herein so that this report constitutes the most current and accurate information. The following survey was conducted in the past and is integrated into this report:

- 6529-R03 – Wix-Brown Elementary School Asbestos Survey and Risk Assessment (*Pacific Environmental, May 16, 2006*)

**Scope of Work**

The scope of this Asbestos Inventory Survey was limited to areas of the school which were accessible using non-destructive means. Fixed finishes such as carpets were not disturbed to investigate sub-layers of flooring nor were fixed ceilings accessed. Suspended T-bar ceilings were accessed in representative locations throughout the school and crawlspaces were investigated from the entry hatch(es) only. Materials which were a part of the building envelope, such as the roof membrane, have not been sampled, as to do so would compromise the building envelope.

Based on the age of the building other hazardous materials may be present such as lead-based paints and coatings, mercury containing thermostats, ODS, PCBs, radioactive sources, silica, rodent/avian feces and mould. No sampling or investigation of these materials was performed. This survey concentrated on potential asbestos containing materials only.

## **Building Description**

The school consists of a two storey building constructed in 1965. There is a crawlspace in the north section while the remaining area is slab on grade. Additions to the school have occurred since 1965 with the latest addition being in 1992. The 1992 section is believed to be on the West side of the school where a covered play area once existed. The exterior is a combination of concrete block and stucco. There are a small number of soffits which are wood.

## **Methodology**

In 2006 a total of twenty-three (23) bulk samples of building materials typically suspected of containing asbestos were collected for analysis. During the present survey seventeen (17) additional samples were collected and analyzed. Please see Appendix A for a complete list of materials analyzed.

Sample quantities and materials sampled were selected based on, our experience, guidelines provided by WorkSafeBC and their publication *“Safe Work Practices for Handling Asbestos”*, 2012. All of the bulk samples were analyzed at the in-house laboratory of Total Safety in accordance with the National Institute for Occupational Safety and Health (NIOSH) Analytical Method 9002, *“Asbestos (bulk) by Polarized Light Microscopy.”* Total Safety laboratories are deemed proficient by the American Industrial Hygiene Association (AIHA) and participate in the quarterly rounds of proficiency testing to maintain registration. All samples will be stored at our laboratory for a period of one month before being disposed of. Should you wish to keep these samples for longer please notify us prior.

## **Findings**

WorkSafeBC considers asbestos containing materials as those materials, other than vermiculite, that contain at least 0.5% asbestos by weight. For vermiculite, WorkSafeBC determines that vermiculite is asbestos containing if it contains any detectable amount of asbestos.

Table 1 below summarizes the sampling information from past surveys for which Total Safety (previously Pacific Environmental Consulting), has access to, in addition to the current surveys. For materials for which a sufficient quantity of samples were collected previously, Total Safety matched them to the materials still present on site and, in the case of materials which required more sampling, additional samples were taken.

For a complete record of analysis refer to Appendix A for all available Bulk Sample Reports. For photos of asbestos containing materials, refer to Appendix B. For a site plan showing sample locations, see Appendix C. An interpretation of these results is provided in the Discussion section.

**Table 1 – Summary of Asbestos Containing Materials**

Material	Num. of Samples Taken	Locations	Notes
Drywall Joint Compound	(2006) – 7 (2016) – 10	• All Gymnasium rooms: Storage, Furnace, Change Rooms and Kitchen	• Three (3) samples from these areas were containing
Silver Duct Sealing Mastic	(2006) – 1	• All ductwork	• Still present, original sample on Penthouse ductwork
Gray/Green Sealing Mastic	(2006) – 0 (2016) – 1	• All ductwork	• Sample collected from Storage Room B2, lower level, Photo 1
Black Sealing Mastic on Water Pipe	(2006) – 0 (2016) – 1	• All water piping	• Sample from Library crawlspace, Photo 2
Stucco	(2006) – 1 (2016) – 3	• West Wall outside Room 19	• Only 1 sample out of 4 was found to contain asbestos, Photo 3
Window Mastic	(2006)-1	• All windows	• Still present, original samples from Library Office
Olive Linoleum	(2006) – 0 (2016) – 0	• Girls/Boys Change Rooms and associated rooms, all Stairwell landings, 2nd floor East/West corridor, Classroom 31	• Previously identified in other schools as asbestos containing
Off-white 12x12 floor tile	(2006) – 1 (2016) – 0	• Gym Kitchen and Supply Room 4	• Still present, original sample in Gym Kitchen
White (beige) 9x9 floor tile	(2006) – 1 (2016) – 1	• Corridor outside Room 19	• Still present, two tiles chipped, Photo 4

Although not sampled, bell and spigot joints were visually identified in the school and it is possible that they are asbestos containing. Cinderblock walls were noted throughout the school and may contain asbestos vermiculite insulation. No drilling of the cinder block walls was performed during this investigation.

### **Discussion and Recommendations**

A total of seventeen (17) samples of drywall joint compound were collected from the school. Three (3) samples collected from rooms in the Gymnasium were found to be asbestos containing. Total Safety recommends that all drywall joint compound in the Gymnasium rooms be considered to be asbestos containing.

Silver duct sealing mastic previously sampled and found to contain asbestos is still present in the school. Total Safety recommends that all silver duct sealing mastic in the school be considered to be asbestos containing.

One (1) sample of gray/green duct sealing mastic was collected during the present survey and found to be asbestos containing. Total Safety recommends that all gray/green duct sealing mastic in the school be considered to be asbestos containing.

One (1) sample of black mastic was collected from a water pipe during the present survey and was found to be asbestos containing. Total Safety recommends that all black sealing mastic present on water pipes in the school be considered to be asbestos containing.

One (1) sample of large stucco outside Room 24 was collected in 2006 and found to be non-containing. The present survey collected three (3) additional samples and one (1) sample was found to contain 1% chrysotile asbestos (West wall outside Rm 19). Total Safety recommends that additional samples of stucco are collected and analyzed prior to any disturbance.

The original window mastic is expected to still be present throughout the school. The original asbestos containing sample was collected from the Library Office window.

Olive (greenish) linoleum is still present in areas identified during the 2006 survey. This material has been sampled in other schools (e.g.. Alice Brown), and found to contain asbestos. Total Safety recommends that all similar olive linoleum in the school be considered to be asbestos containing.

Off-white 12" x 12" floor tile identified by the 2006 survey is still present in the Gym Kitchen and Supply Room 4. Total Safety recommends that all similar 12" x 12" floor tile in the school be considered to be asbestos containing.

White (beige) 9" x 9" floor tile identified by the 2006 survey is still present in the corridor outside Room 19. During the present survey a second sample was collected and this sample confirmed the presence of asbestos. It was noted that two floor tiles had large sections missing. Total Safety recommends that all similar 9" x 9" floor tile in the school be considered to be asbestos containing.

Asbestos containing furniture has been removed.

The 2006 survey identified asbestos containing green linoleum in the Gymnasium. This appears to have been removed or covered over as the present linoleum is tan coloured.

Materials which are known to not contain asbestos that were observed and were not sampled include fiberglass pipe insulation, carpet, wood wall paneling and fiber or vinyl coated drywall.

In addition to the asbestos containing materials identified in this non-intrusive survey, there may be additional asbestos containing materials in concealed areas such as wall cavities, ceiling spaces and other inaccessible areas.

Disposal of asbestos containing materials must be carried out in compliance with the BC Ministry of Environment Hazardous Waste Regulation and will require the site owner obtain a waste generator (BCG) number.

If any drywall is to be removed, please note that non-asbestos drywall/gypsum is banned from most BC landfills because it forms a hazardous gas when mixed with water; however, it is a recyclable product and should therefore not be mixed with other garbage or left attached to other demolition waste. Non-asbestos drywall must be disposed of separately at a qualified recycling centre.

**WorkSafeBC Regulatory Requirements (Asbestos)**

In the event that the demolition or further renovation outside of the area described in the scope of work is proposed, additional sampling will be required to comply with the WorkSafeBC Occupational Health and Safety Regulation (WSBCOH&S) Part 20: *“Construction, Excavation and Demolition”* specifically Section 20.112 subsections (a), (b), (c) and (d).

If any of the identified asbestos containing materials are likely to be disturbed by work activities they must first be removed by a qualified asbestos abatement contractor, using appropriate work procedures as determined by a Risk Assessment performed by a Qualified Person and in accordance with the WorkSafeBC OH&S Section 6.6 (2-3) and 20.112.

In compliance with Section 6.5 of the WorkSafeBC OH&S Regulations, all asbestos containing materials present in the workplace must be identified by signs, labels or when these are not practicable, other effective means. This inventory, as per Section 6.4 and 6.6 (1) of the WorkSafeBC OH&S Regulations, must be kept current by producing documentation that indicates the deletion of those asbestos containing material items which have been removed, such as during renovations, and by inspecting and documenting the condition of the known asbestos containing materials at least annually.

### **Limitations**

This non-intrusive survey did not include hidden materials such as those found in wall cavities or beneath floor finishes. We did not collect samples of roofing materials as damage incurred during sampling could compromise the integrity of building envelope systems.

This report is intended for the exclusive use of School District 35 (Langley) to determine the likely locations of asbestos containing materials for the purpose of managing them in place at the above referenced site. The use of this document for any other purpose is at the sole risk of the user.

This report is not a Specification or Scope of Work and the use of this document as such will be at the sole risk of the user.

The contents of this report were based on a site visit conducted by Total Safety personnel. Please note that some asbestos containing materials may not have been accessible on the day of our survey, and may remain unidentified following our survey. Products containing hazardous materials are sometimes used behind wall partitions or on mechanical systems located in pipe chases or other concealed areas.

### **Statement of Qualifications**

Total Safety has been providing consulting services in the environmental and industrial hygiene fields since 1990. Our personnel include the following:

- Certified Industrial Hygienists (CIH)
- Canadian Registered Safety Professionals (CRSP)
- Registered Occupational Hygienist (ROH)
- Registered Professional Biologist (R.P. Bio)
- Certified Health and Safety Consultant (CHSC)

Total Safety also carries Environmental Errors & Omissions Liability Insurance and Comprehensive General Liability Insurance.

We thank you for the opportunity of performing this work on your behalf. Should you have any questions or require any additional information, please contact the writer.

Best Regards,



### **Signature on File**

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**Gordon Wedman, MEng. (OH&S)**

*Industrial Hygiene Technologist*  
Field Investigation & Report

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**Norman Richardson, Mech. Eng. Tech., CRSP, CHSC**

*Technical Operations Manager*  
Report Review

# **Appendix A**

## **Bulk Sample Analysis Report(s)**

## Asbestos Bulk Sample Screen Results

Project Number: 6529

Client Name: Langley SD No.35

NO.	DATE	SAMPLE INFORMATION	Location	Material	Material Type	ASBESTOS PRESENT*
23	01-May-2006	Wix-Brown Elementary	Main Floor	Entrance	cream mottled battleship	No
24	01-May-2006	Wix-Brown Elementary	Main Floor	Gym Kitchen	off-white	Yes Chrysotile (1-10%)
25	01-May-2006	Wix-Brown Elementary	Main Floor	Gym Storage Room	olive w/ white streaks	No
26	01-May-2006	Wix-Brown Elementary	Main Floor	Boy's Change Room	Bulkhead	Yes Chrysotile (1-10%)
27	01-May-2006	Wix-Brown Elementary	Main Floor	Room 12	Fumehood Ducting	No
28	01-May-2006	Wix-Brown Elementary	Main Floor	Corridor outside Room 7	wall	No
29	01-May-2006	Wix-Brown Elementary	Main Floor	Electrical Room	orange+brown mottled	No
30	01-May-2006	Wix-Brown Elementary	Main Floor	Mechanical Room	Wall Electrical Lines	No
31	01-May-2006	Wix-Brown Elementary	Main Floor	Corridor by Room 19	beige 9x9 floor tile	Yes Chrysotile (1-10%)
32	01-May-2006	Wix-Brown Elementary	Main Floor	Room 19	drywall taping compound	No
33	01-May-2006	Wix-Brown Elementary	Exterior	by Room 24	large stucco	No
34	01-May-2006	Wix-Brown Elementary	Main Floor	Office Copy Room	drywall taping compound	No
35	01-May-2006	Wix-Brown Elementary	Main Floor	Office Copy Room	linoleum	No
36	01-May-2006	Wix-Brown Elementary	Main Floor	Library Office	pink mosaic linoleum	No
37	01-May-2006	Wix-Brown Elementary	Main Floor	Library Office	window mastic	Yes Chrysotile (10-20%)
38	01-May-2006	Wix-Brown Elementary	Main Floor	Stairwell	beige stair tread	No
39	01-May-2006	Wix-Brown Elementary	Main Floor	Stairwell	dark grey stair tread	No
40	01-May-2006	Wix-Brown Elementary	Main Floor	Stairwell	light grey stair tread	No
41	01-May-2006	Wix-Brown Elementary	Roof	Penthouse Mechanical Room	ducting	Yes Chrysotile (1-10%)
42	01-May-2006	Wix-Brown Elementary	Roof	Penthouse Mechanical Room	Wall	No
43	01-May-2006	Wix-Brown Elementary	Floor 2	Corridor	ducting	No
44	01-May-2006	Wix-Brown Elementary	Floor 2	Room 30	Bulkhead	No

\* No = None Detected or <1% Asbestos present in the sample.

Report printed on 15-May-2006  
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## Asbestos Bulk Sample Screen Results

Project Number: 6529

Client Name: Langley SD No.35

NO.	DATE	SAMPLE INFORMATION		Room 109 (B4)	Wall	MATERIAL TYPE	ASBESTOS PRESENT*
		45	01-May-2006				
		Wix-Brown Elementary		Lower Floor		drywall taping compound	No

Total Number of Samples 23

\* No = None Detected or <1% Asbestos present in the sample.

**Pacific** Environmental Consulting & Occupational Hygiene Services

## TSS PACIFIC - RECORD OF ANALYSIS

**Report Number:** 200753-55044  
**Client:** SD 35 (Langley)  
**Address:** 23851 - 24th Avenue  
Langley BC

**Reference:** Wix Brown Elementary School  
**Report Date:** 14-Oct-16  
**Contact:**

Please find enclosed our laboratory's results for the bulk sample(s) submitted to our office for identification.

Sample examination was conducted in accordance with the NIOSH 9002 analytical method using polarized light microscopy and dispersion staining techniques.

A result of 'Asbestos–Not detected' means no asbestos fibres were detected. When asbestos is detected, the minimum quantitation limit is 1%. Levels of asbestos present but below 1% based on visual estimation will be described as TRACE.

This test report relates only to the items tested and any extrapolation by the client of the results is the responsibility of the client. For samples not collected by TSS Pacific, the accuracy of locations and material(s) is the responsibility of the client. Samples will be disposed of after one month, unless we are instructed otherwise.

**If asbestos products are identified in this report they should be remediated safely in accordance with the requirements of Part 6.0 of the Worksafe B.C. Occupational Health and Safety Regulation. In general this will require the completion of a Risk Assessment (Part 6.6.1) completed by a “Qualified Person” as defined in Part 6.1.**

# TSS PACIFIC - RECORD OF ANALYSIS

**Report Number: 200753-55044**

**Address: 23851 - 24th Avenue, Langley**

**Client Name: SD 35 (Langley)**

**Sampled By: TSS Pacific**

**Reference: Wix Brown Elementary School**

**Date Sampled: 12-Sep-16**

**Date Analyzed: 14-Oct-16**

**Analyst: EC**

NO.	SAMPLE INFORMATION	LAYER	ASBESTOS	OTHER MATERIALS
200753-55044-001	Stucco Exterior / Outside room 19 West wall	Paint 10% Grey cementitious mix 90%	Not Detected YES - Chrysotile 1%	Non-Fibrous 100% Non-Fibrous 99%
200753-55044-002	Stucco Exterior / Outside room 24 Northeast corner	White cementitious mix 100%	Not Detected	Non-Fibrous 100%
200753-55044-003	Stucco Exterior / Outside mechanical room East wall	White cementitious mix 100%	Not Detected	Non-Fibrous 100%
200753-55044-004	Mastic Lower level / Storage room B2	Grey sparkling layer 70% Light grey layer 30%	YES - Chrysotile 5% Not Detected	Non-Fibrous 95% Non-Fibrous 100%
200753-55044-005	Drywall Joint Compound Lower level / Room B2 Custodian closet	Paint 40% White chalky mix 60%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%
200753-55044-006	Drywall Joint Compound Lower level / Room B1 Column by sink	Paint 30% White chalky mix 70%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%
200753-55044-007	Drywall Joint Compound Lower level / Corridor outside B1 Above ceiling	White chalky mix 100%	Not Detected	Non-Fibrous 100%
200753-55044-008	Mastic Lower level / Room B1 Above ceiling	Grey layer 100%	Not Detected	Non-Fibrous 100%

Analyzed in accordance with NIOSH METHOD 9002 – ASBESTOS (BULK) BY PLM

AIHA BAPAT Lab #185672

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- A result of 'Asbestos-Not detected' means no asbestos fibres were detected;
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**BAPAT Lab #185672**

# TSS PACIFIC - RECORD OF ANALYSIS

**Report Number: 200753-55044**

**Address: 23851 - 24th Avenue, Langley**

**Client Name: SD 35 (Langley)**

**Sampled By: TSS Pacific**

**Reference: Wix Brown Elementary School**

**Date Sampled: 12-Sep-16**

**Date Analyzed: 14-Oct-16**

**Analyst: EC**

NO.	SAMPLE INFORMATION	LAYER	ASBESTOS	OTHER MATERIALS
200753-55044-009	Drywall Joint Compound Upper floor / Room 30 Above ceiling by door	White chalky mix 95% Paper 5%	Not Detected Not Detected	Non-Fibrous 100% Cellulose 100%
200753-55044-010	Drywall Joint Compound Main floor / Room 6 - staff room By coat closet	Paint 20% White chalky mix 80%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%
200753-55044-011	Mastic Crawlspace / Room 5 - library	Black mastic 100%	YES - Chrysotile 3%	Non-Fibrous 97%
200753-55044-012	Drywall Joint Compound Main floor / Room 5 - library Door to outside	Paint 20% White chalky mix 80%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%
200753-55044-013	Drywall Joint Compound Main floor / Gym storage room Overhead bulkhead	Paint 20% Grey chalky mix 80%	Not Detected YES - Chrysotile 1%	Non-Fibrous 100% Non-Fibrous 99%
200753-55044-014	Drywall Joint Compound Main floor / Gym - furnace room Overhead bulkhead	Paint 20% Grey chalky mix 80%	Not Detected YES - Chrysotile 1%	Non-Fibrous 100% Non-Fibrous 99%
200753-55044-015	Drywall Joint Compound Main floor / Room 16 Far left corner - by window	Paint 20% White chalky mix 80%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%
200753-55044-016	Drywall Joint Compound Main floor / Mechanical room 20 By water tank	Paint 20% White chalky mix 80%	Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100%

Analyzed in accordance with NIOSH METHOD 9002 – ASBESTOS (BULK) BY PLM

AIHA BAPAT Lab #185672

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BAPAT Lab #185672

## TSS PACIFIC - RECORD OF ANALYSIS

Report Number: 200753-55044

Address: 23851 - 24th Avenue, Langley

Client Name: SD 35 (Langley)

Sampled By: TSS Pacific

Reference: Wix Brown Elementary School

Date Sampled: 12-Sep-16

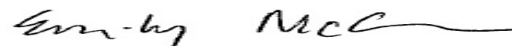
Date Analyzed: 14-Oct-16

Analyst: EC

NO.	SAMPLE INFORMATION	LAYER	ASBESTOS	OTHER MATERIALS
200753-55044-017	Vinyl Floor Tile Main floor / Corridor outside room 19	Hard beige vinyl 98% Black mastic 2%	YES - Chrysotile 1% Not Detected	Non-Fibrous 99% Non-Fibrous 100%

Total Number of Samples: 17

Report Reviewed By: Emily McGloin



- A result of 'Asbestos–Not detected' means no asbestos fibres were detected;
- When asbestos is detected, the minimum quantitation limit is 1%;
- Levels of asbestos present but below 1% based on visual estimation will be described as TRACE.

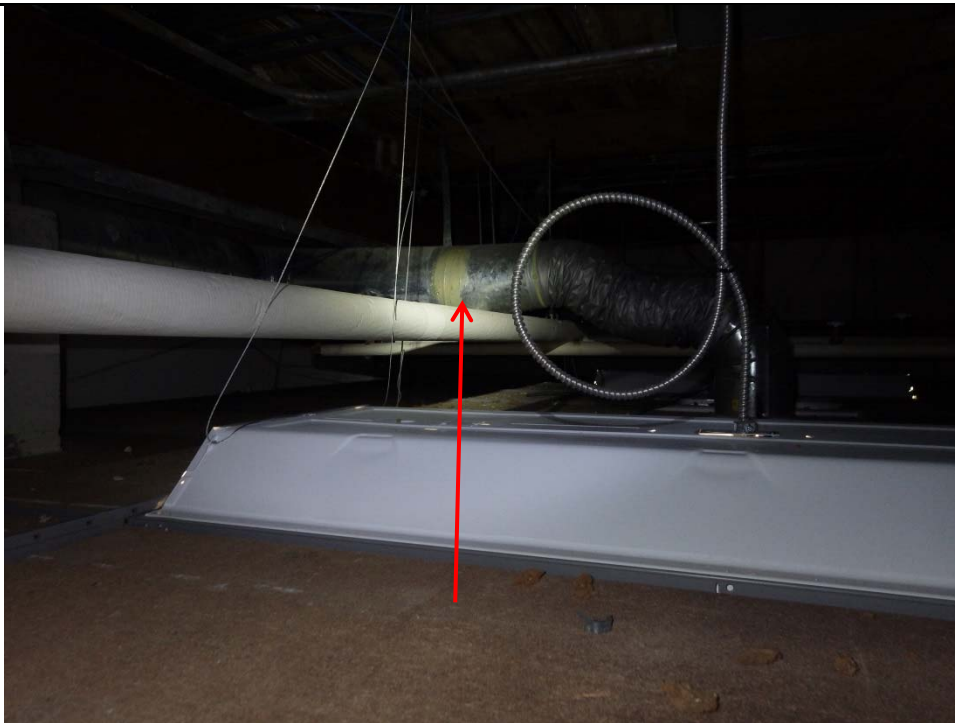


# **Appendix B**

## **Photographs**



<b>Photo 1</b>	<b>Date:</b> Sept. 12, 2016	<b>Location:</b> West Exterior Wall outside Room 19
<b>Description:</b> Stucco		

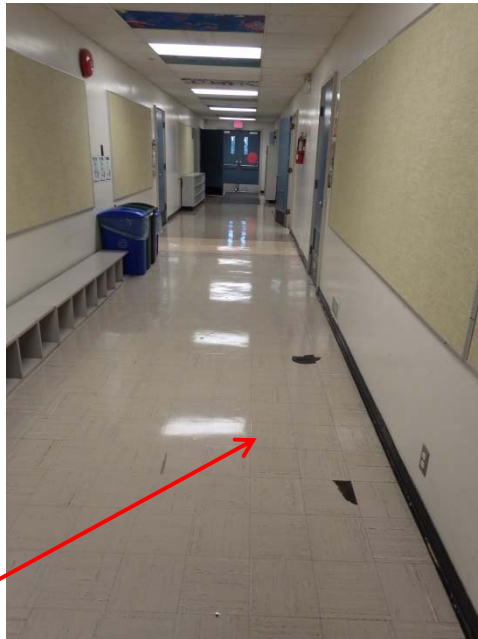


<b>Photo 2</b>	<b>Date:</b> Sept. 12, 2016	<b>Location:</b> Storage Room B2
<b>Description:</b> Gray/Green Duct Mastic		



<b>Photo 3</b>	<b>Date:</b> Sept. 12, 2016	<b>Location:</b> Crawlspace under Library
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<b>Description:</b> Black sealing mastic on water pipe
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<b>Photo 4</b>	<b>Date:</b> Sept. 12, 2016	<b>Location:</b> Corridor outside Room 19
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<b>Description:</b> Beige 9" x 9" floor tile
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# **Appendix C**

## **Sampling Locations**

