



December 10, 2024

Hamilton-Wentworth District School Board
20 Education Court
Hamilton, Ontario L9A 0B9

E-mail: nfisher@hwdsb.on.ca

Attention: Nathan Fisher
Project Supervisor, Capital Projects

Re: Procedures for Access to the Tunnel/Crawlspace
Franklin Road School, 500 Franklin Road, Hamilton, Ontario
Pinchin File: 336572.014

Pinchin Ltd. (Pinchin) was retained by the Hamilton-Wentworth District School Board (HWDSB) to perform a hazardous building materials assessment, which included assessing the crawlspace/tunnels in preparation for the washroom renovation project at Franklin Road Elementary School located at 500 Franklin Road, Hamilton, Ontario.

The purpose of this letter is to provide a summary of the Hazardous Materials Assessment and Confined Space Assessment findings and recommended procedures required to work safely within the tunnels/crawlspaces of the school.

1.0 FINDINGS

1.1 Asbestos

1.1.1 Pipe Insulation

Pipes are insulated with fibreglass insulation.

Presumed asbestos-containing debris may be present below damaged parking cement on pipe fittings.

1.1.2 Lead

Lead wool or lead caulking is present in bell and spigot fittings on cast iron pipes.

1.1.3 Silica

Crystalline silica is a presumed component of the following building materials where present in the tunnels/crawlspace:

- Poured or pre-cast concrete
- Masonry and mortar



1.1.4 Mould

Mould may be encountered within the crawlspace.

1.2 Confined Space Assessment

The tunnel/crawlspace has three access points; two in the Boiler Room and one in the Boy's Washroom 128. The space is characterized as L-shaped running underneath corridors/washrooms the length of the school. The space has a concrete floor with debris and was mostly dry during the assessment. Enclosed piping and large electrical lines run through the space. The space is 15 metres (m) long by 1.2 m high by 1.8 m wide. The space is below grade and used for access to piping systems for various services. The space is not considered designed for continuous human occupancy.

On the date of the assessment, October 15, 2024, air monitoring was conducted for percent oxygen (% O₂), percent lower explosive limit (LEL), carbon monoxide (CO), and hydrogen sulfide (H₂S). All levels were within acceptable limits.

Evaluation of the space indicated that there would be no potential for "atmospheric hazards" based on the construction, location or contents of the space. However, depending on the work done in the space (e.g., welding or torch cutting) atmospheric hazards may be introduced/generated (see the Confined and Controlled Space Hazard Assessment for details). The space should also be checked immediately prior to entry for any evidence of flooding or sewage leaks, as this would also contribute to a potential atmospheric hazard.

Potential non-atmospheric hazards include access/egress hazards (crawl to enter space), potential corrosion, insects/vermin, microbiologicals, physical obstructions due to the number of pipes present and low areas, poor visibility, slip and trip hazards due to uneven flooring, limited work space in some of the crawlspace areas, and head hazards due to low head-room and piping/foundation in some areas.

The Confined and Controlled Space Hazard Assessment has been enclosed for reference.

Please note that Pinchin, with the assistance of the Franklin Road School Caretaking staff, were unable to locate the access hatch for the crawlspace/tunnel beneath Girl's Washroom 134 and Boy's Washroom 135 and therefore the crawlspace/tunnels directly below these washrooms was not assessed.

2.0 RECOMMENDATIONS

2.1 Crawlspace Procedures

Even though there is no atmospheric hazard potential in this tunnel/crawlspace unless the aforementioned work activities (welding/torch cutting) is conducted, it is recommended that air testing be



conducted by a competent person prior to entry to the space on each day to ensure acceptable atmospheric levels.

All air monitoring should be performed using a calibrated direct reading instrument measuring for % O₂, LEL, CO, and H₂S. The results must be found to be within the acceptable ranges each day; oxygen above 19.5% and below 23% (normal atmospheric level is 20.9%), lower explosive limit of combustible gases (LEL) at less than 10%, carbon monoxide at less than 25 parts per million (ppm), and hydrogen sulfide at less than 10 ppm. Assuming acceptable levels and no work involving the activities that move the work to a confined space (i.e., generation of an atmospheric hazard), entry can be done under what Pinchin calls a “controlled” space; non-confined, but with other, non-atmospheric hazards. In the unlikely event that the results of the confined space monitoring are unacceptable, or if an unusual condition is observed such as significant flooding or sewage infiltration, the work for that day will have to be postponed until confined space procedures are developed.

Welding or cutting using compressed gases, work on sewer lines, a large sewage leak, or other activities that may create an atmospheric hazard within the tunnel/crawlspace are prohibited unless full confined space provisions are followed as per O. Reg. 632/05.



3.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

Should you have any questions or concerns regarding the contents of this letter, please contact Jessica Cozzitorto at 289.678.0692 or jcozzitorto@pinchin.com.

Yours truly,

Pinchin Ltd.

Prepared by:

Reviewed by:

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Encl.: Confined and Controlled Space Hazard Assessment

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Template: Master Letter Template, September 23, 2024

Confined and Controlled Space Hazard Assessment

Date (Initial Assessment/Today): October 15, 2024

Facility Name/Address/Pinchin File #: Franklin Elementary School / 500 Franklin Dr, Hamilton, ON / 336572.014

Initial Assessor (a competent person who has adequate knowledge, training and experience): Dave George, M.E.S., CRSP (signature)

Reviewer (if applicable): Marcus Anthes, M.Sc.(A), CRSP (signature)

Today's Assessor (a competent person who has adequate knowledge, training and experience): _____ (signature)

Space Location: Under Corridors/Washrooms (Room #: 114/120/121/128/146/135/134)

Space Identifier (and ID #, if applicable): Service Tunnel/Pipe Chase

“Confined space”, means a fully or partially enclosed space,

(a) that is not both designed and constructed for continuous human occupancy, and

(b) in which “atmospheric hazards” (further defined in regulations) may occur because of its construction, location or contents or because of work that is done in it.

Does this assessment apply to the other spaces of “similar construction and same hazards”? Yes No

If yes, identify all spaces to which this assessment applies:

SPACE CHARACTERIZATION:

Description of Space: An L-shaped tunnel/pipe chase running underneath corridors/washrooms the length of the school. The space has a concrete floor with debris, and was noted to be mostly dry during the assessment. Enclosed piping and large electrical lines run throughout the space. The space has three access points: two in the boiler room and one in the boy's washroom (Room # 128).

Contents of the Space (review SDS if applicable): Enclosed piping – (water lines, heating lines, sewage lines), various debris, large electrical lines, possible water/organics.



Is this space entered by any worker? Yes No (If no, STOP here [unless there is any question as to possible future entries])

Is this space designed for continuous human occupancy? No Yes (If Yes, not a confined space)

Function: Piping/service access

Size (metres (m)), Configuration: 15m long x 1.2m high x 1.8m wide

Indoor/Outdoor: Indoor

Above/Below Grade: Below

Entry Point(s): Two open access points in boiler room / one hatch in Room # 128

Pertinent Construction Features: N/A

Access: Crawl in from floor level or step-down

Ventilation: Significant natural Mechanical Other: None

Adjacent Operations: N/A

Supply Lines: No – enclosed piping

Mechanical Equipment: No

ATMOSPHERIC HAZARD(S) – Based on the characteristics or contents of space.

Oxygen Enrichment/Depletion: _____

Flammables/Combustibles/Explosives: _____

Toxics (likely to result in acute health effects that pose an immediate threat to life, or interfere with a person's ability to escape unaided from the space?): _____

Space can be cleared of hazards (**eliminated**) prior to entry? (If yes, not confined). Indicate how: _____



Confined and Controlled Space Hazard Assessment

WORK CONDUCTED IN THE SPACE

Who conducts work in this space? Employer? Single Contractor? Multiple Employers?

Purpose of Entry (1): Inspection Cleaning _____ Maintenance/Repair: Pipes/electrical Preventative Maintenance

Type of Work Conducted (1): Inspection Cold Work (indicate): _____ Hot Work (indicate): _____

Purpose of Entry (2, if applicable): Inspection Cleaning _____ Maintenance/Repair Pipes/electrical Preventative Maintenance

Type of Work Conducted (2, if applicable): Inspection Cold Work (indicate): _____ Hot Work (indicate): Grinding, cutting, welding

Atmospheric Hazard(s), based on the "type of work conducted" indicated above (Identify only if the type of work conducted may generate an atmospheric hazard):

Oxygen Enrichment/Depletion: 1) Potential depletion from weld gases; or enrichment from oxyacetylene (especially if the compressed gas cylinder is inside the space). 2) Potential depletion due to sewage (only if there is a sewage leak).

Flammables/Combustibles/Explosives: Welding gases, oils, lubricants.

Toxics (likely to result in acute health effects that pose an immediate threat to life, or interfere with a person's ability to escape unaided from the space)?: _____

NON-ATMOSPHERIC HAZARDS:

Identified non-atmospheric hazards (identify):

Access/Egress Restrictions: Crawl to enter space

Engulfment/Entrapment: _____

Adjacent Operations: _____

Corrosion: Potential

Drowning: _____

Electrical: _____

Entanglement: _____

Falling: _____

Falling Objects: _____

Insects/Vermin: Potential

Ladder Condition: _____

Materials Movement: _____

Microbiologicals: Potential

Moving Equipment: _____

Noise: _____

Physical Obstruction: Piping and concrete sections

Slip/Trip Hazards: Proper footwear

Stored Energy: _____

Supply Lines Discharges: _____

Thermal (heat/cold): _____

Vehicle Traffic: _____

Visibility Poor: Portable lighting required

Work Space Limited: Need to crouch or crawl

Head Hazards: Low ceiling/pipes, requires hard hat

Site Control (Unauthorized Entry): Barricades/locks – Manhole Cover Guardrails Warning Signs Other:

Additional notes/hazards: (Air monitoring using a direct reading multi-gas ("4-Gas") monitor was conducted during the Oct 15, 2024 assessment and all levels were noted to be acceptable. Percent oxygen was normal at 20.9%, flammables/combustibles (LEL) were not detected (less than 1%), carbon monoxide was not detected (less than 1 ppm) and hydrogen sulfide was not detected (less than 0.1 ppm).

Check for any sewage leaks or flooding prior to entry, and if there is evidence of such, the space becomes a confined space and must be reassessed.

CONCLUSIONS

Meets the definition of a confined space. *This document will act as the initial "Hazard Assessment". Follow all additional requirements of the Regulation 632/05.*

Could be a confined space under specific conditions of use (e.g. Controlled)? During: 1) Welding or oxyacetylene cutting using compressed gases in the space or 2) a sewage leak/significant flooding.

Does not meet the definition of a confined space and is not expected to become a confined space based on the work activities assessed.