



**Waterloo Catholic  
District School Board**

---

***ADDENDUM # 001***

---

**St Anne Cambridge CES Renovation  
127 Elgin St N, Cambridge, ON N1R 0E1  
RFT No. 2026-11**

17/21 Project No 2527

Documents prepared by:

**17|21 architects inc.**  
1065 Valetta Street, Suite A  
London, Ontario  
N6H 2Z9

Issue Date:

Thursday, 12 March 2026

*This addendum forms part of the Contract Documents and amends the original drawings dated March 3<sup>rd</sup>, 2026 marked as ISSUED FOR TENDER and specifications dated March 3<sup>rd</sup>, 2026*

## **TABLE OF CONTENTS**

ADDENDUM # 1 (Including cover)	3 Page(s)
List of General Contractors – Non-mandatory Site Visit	1 Page(s)
Designated Substance Audit Report	34 Page(s)
Section 01 21 00 – Allowance	1 Page(s)
Section 08810 – Glazing	5 Page(s)
Section 09300 - Ceramic Tile	4 Page(s)
Drawing A101	1 Page(s)
Detail ASK-001	1 Page(s)
Addendum # 1 From Callidus Engineering	3 Pages(s)

<b>TOTAL PAGE COUNT FOR THIS ADDENDUM</b>	<b>53 Page(s)</b>
---	-------------------

## **PART A- GENERAL**

- 1- Attached is a list of the General Contractors and trades that went to the non-mandatory Site Visit.
- 2- Questions:

### **Question #1:**

Will you accept equal lighting and lighting control products from Cooper Lighting to the specified product?  
Can you clarify the lighting control sequence of operations for each area?  
Is there any emergency lighting required? If so, would AimLite be accepted?

#### **Answer:**

Alternate fixtures are allowed, there is no real sequence of operation for the lighting controls. No emergency lighting is included.

### **Question #2:**

After review of specifications, 1.2 Supplementary list of subcontractors. Do these all need to be filled out as the scope of work for this project does not align with some of the line items. Such as paving, sprayed fireproofing, lifts for disabled, gymnasium equipment, structural steel

#### **Answer:**

Only the ones that are related with the St Anne Cambridge scope of work.

### **Question #3:**

- 1- Can Demolition Note 4 be marked on the drawings where this will be required? It just states remove necessary existing concrete block as needed for plumbing fixture installation but I cannot tell from the mech drawings where/how much that needs to be removed?
- 2- Please confirm if it is regular daytime hours, or after-hours only while school is occupied?
- 3- Where can bins be place on site?

#### **Answer:**

- 1- This note applies to the WRs in the case there is a new plumbing pipes that need to pass through block, like for the 2 new Bradley sinks. The intend is that the client does not get any extra for block removal or repair.

- 2- Work hours to be from 7:30 to 5:00pm. Also, refer to the Community Center note on sheet A100. Any work outside the work space that could affect the community centre should be coordinated with the school board.
- 3- The awarded General Contractor will coordinate it with the School.

**Question #4:**

Can an extension be granted to avoid closing during March break?

**Answer:**

No extension is allowed

**Question #5:**

Can we get Daikin added equal for the Gas Fired Makeup Air Unit?

**Answer:**

Refer to Addendum # 1, form Callidus Engineering attached

**Question #6:**

Washroom elevations show ceramic tile in both washrooms. Legend says CT-1, CT-2, CT-3, with no other explanation. There is no Tile section in specifications

**Answer:**

Section 09300 - Ceramic Tile

**PART B- SPECIFICATIONS**

- Refer to attached updated DESIGNATED SUBSTANCE AUDIT REPORT, dated March 9, 2026.
- Refer to drawing ASK -001 -Reference Floor Plan for Hardware Schedule
- Refer to revised Section 01 21 00 – Allowance
- Refer to Revised Section 08810 – Glazing
- Refer to new Section 09300 - Ceramic Tile attached

**PART C – ARCHITECTURAL DRAWINGS**

- Refer to Drawing A100 for additional door in Door Schedule

**PART D – MECHANICAL / ELECTRICAL DRAWINGS**

- Refer to Addendum # 1, form Callidus Engineering attached

**END OF ADDENDUM # 001**





# St. Anne Catholic School

## Designated Substance Audit Report

**Project Location:**

127 Elgin Street North, Cambridge, ON

**Prepared for:**

Waterloo Catholic District School Board  
480 Dutton Drive  
Waterloo, ON N2L 4C6

**Prepared by:**

MTE Consultants Inc.  
1016 Sutton Drive, Unit A  
Burlington, ON L7L 6B8

March 9, 2026

**MTE File No.:** 64457\_006





## Contents

1.0	Introduction .....	1
1.1	Authorization.....	1
2.0	Scope of Work.....	1
3.0	Methodology and Assessment Criteria .....	1
4.0	Assessment and Results .....	2
4.1	Findings and Analytical Results .....	3
4.1.1	Asbestos .....	3
4.1.2	Lead.....	4
4.1.3	Mercury .....	4
4.1.4	Silica .....	4
4.1.5	Mould.....	4
4.1.6	Polychlorinated Biphenyls (PCB).....	4
4.1.7	Ozone-Depleting Substances (ODS).....	5
4.2	Conclusions and Recommendations .....	5
4.2.1	Asbestos .....	5
4.2.2	Lead.....	6
4.2.3	Mercury .....	6
4.2.4	Silica .....	6
4.2.5	Mould.....	6
4.2.6	Polychlorinated Biphenyls (PCB).....	6
4.2.7	Ozone Depleting Substances (ODS).....	7
5.0	Limitations.....	8

## Appendices

Appendix A	Tables
Appendix B	Laboratory Certificates of Analysis
Appendix C	Figures
Appendix D	Photographic Log

# 1.0 INTRODUCTION

## 1.1 Authorization

MTE Consultants Inc. (MTE) was retained by Waterloo Catholic District School Board (the Client) to conduct a Designated Substance Audit for the building located at 127 Elgin Street North in Cambridge, Ontario.

The purpose of the audit was to identify the presence of Designated Substances within the building in accordance with Section 30 of the Occupational Health & Safety Act (OHSA), in advance of building modernization project. This report meets the requirements of Section 30 of the OHSA and the requirements of Ontario Regulation (O. Reg.) 278/05.

## 2.0 SCOPE OF WORK

As requested by the Client, this assessment was limited to the area delineated within the figure in **Appendix C**. These areas are referred to in the following sections as the “Subject Areas”.

The Scope of Work for this assessment was completed by MTE and included the following activities:

- Review of existing or historical reports and documentation pertaining to Designated Substances within the building;
- Visual inspection of accessible locations within the Subject Area to identify the following suspect Designated Substances and Hazardous Building Materials:
  - Asbestos;
  - Lead;
  - Mercury;
  - Silica;
  - Mould growth;
  - Ozone Depleting Substances; and,
  - Polychlorinated Biphenyls limited to fluorescent light ballasts/sealants;
- The following Designated Substances are not expected to be present due to the building use or in a form that is hazardous: Acrylonitrile, Arsenic, Benzene, Coke Oven Emissions, Ethylene Oxide, Isocyanates, and Vinyl Chloride;
- Collection of bulk building material samples suspected to contain asbestos;
- Collection of paint scrape samples suspected to contain lead;
- Submission of samples to an accredited and/or qualified laboratory;
- Interpretation of laboratory results; and,
- Preparation of this report of findings and recommendations.

## 3.0 METHODOLOGY AND ASSESSMENT CRITERIA

This audit was conducted using visual and laboratory identification methods for the assessment of materials outlined in Section 2.0 and their corresponding location and use. Materials that are determined to be asbestos-containing materials (ACM) are further classified by their friability and condition. The areas outlined in Section 2.0 were inspected and limited to building components, materials and service connections. Notwithstanding that reasonable attempts

were made to identify all Designated Substances, the possibility of concealed substances and material exists and may not become visible until substantial demolition has occurred and therefore are currently undocumented. All work was conducted in accordance with industry accepted methods and MTE Standard Operating Procedures and did not include the following:

- Materials indicated in this report as “Potentially Concealed”;
- Locations that may be hazardous to the surveyor (located at heights, electrical equipment, confined spaces);
- Where invasive inspection could cause consequential damage to the property or impair the integrity of the equipment, such as roof system, sealants, exterior finishes, underground services or components of mechanical equipment;
- Locations concealed by building finishes that require substantial demolition or removal for access or determination of quantities (plumbing or electrical lines);
- Non-permanent items or personal contents, furnishings; and,
- Settled dust or airborne agents unless otherwise stated.

## 4.0 ASSESSMENT AND RESULTS

An inspection of the building was conducted by MTE on March 2, 2026.

The proposed modernization project is expected to disturb interior doors, interior lighting, HVAC system and associated hardware, sealants, concrete block walls, frames and roofing systems within the Subject Areas.

A description of the building and assessed finishes is provided below. Refer to Section 4.1 for a summary of findings.

Building Element	Description
Construction Date	1965
Building Structure	Structural steel Concrete Concrete block
Mechanical Systems/Insulations	Boiler heating Roof mounted central air conditioning  Parging on pipe fittings Fibreglass insulation on pipe straights Fibreglass duct insulation Fibreglass insulation covered with Polyvinyl Chloride (PVC)
Electrical/Plumbing Systems	Fluorescent Light tubes T8/T4 light ballasts
Floor Finishes	Vinyl floor tiles Carpet Hardwood Concrete Terrazzo
Wall Finishes	Concrete Drywall
Ceiling Finishes	Concrete Panels

Building Element	Description
	2' x 4' Small Fissure Random Pinhole ceiling tiles (Post 1990 manufacturing date stamp) 2' x 4' Long Fissure Random Pinhole ceiling tiles

As part of this assignment, MTE reviewed “2025 Asbestos Audit Update” which was prepared by MTE Consultants and dated May 14, 2025. Review of this report indicated the following asbestos-containing materials have been confirmed within the building:

Item	Material Description	Location
Confirmed ACM	9"x9" White with Grey Streaks Vinyl Floor Tiles and Associated Mastic	Stage Stairwell
	12"x12" White with Grey Fleck Floor Tile	Custodian Office
	Parging on pipe elbows	Concealed in pipe chases and wall cavities

## 4.1 Findings and Analytical Results

A summary of sampling locations and analytical results are included in **Appendix A**.

Laboratory certificates of analysis are included in **Appendix B**.

Figures of inspected areas are included in **Appendix C**.

A photographic log is included in **Appendix D**.

A detailed summary of findings and recommended actions is provided in **Table 4.3 of Appendix A**.

### 4.1.1 Asbestos

Asbestos was used in building materials throughout the years with peak usage in the 1950s and 1960s. While the manufacture of most ACM was banned in the 1970s, buildings constructed in the 1980s have the potential for ACM as well. In 1986, legislation limiting the use of asbestos in consumer products was introduced.

As part of this inspection, a total of 17 bulk samples of suspect ACM were submitted for asbestos analysis with a total of 17 analyses being performed. The difference between the number of samples submitted and the number of samples analysed can be a function of either the stop-positive method or the requirement of analyzing multiple layers, performed by the laboratory, from a single sample reported as additional samples or subsets of a sample.

Bulk samples were submitted for asbestos analysis to Paracel Laboratories Ltd. (Paracel), in Mississauga, Ontario. Paracel is certified under the Canadian Association of Laboratory Accreditation to perform asbestos analysis of bulk samples (accreditation number A3762). Laboratory analysis was conducted in accordance with the United States Environmental Protection Agency (USEPA), Test Method EPA/600-R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June, 1993 by Polarized Light Microscopy (PLM) as prescribed by O. Reg. 278/05.

Based on the laboratory results and visual identification, ACM was confirmed present at the time of the inspection. In addition, suspect ACM was either observed or may potentially be concealed by building finishes.

### **4.1.2 Lead**

Lead was historically used in mortar pigments, ceramic glazing; plumbing solder, electrical equipment and electronics solder, in pipe gaskets as packing in cast iron bell and spigot joints of sanitary drains, flexible plumbing connections, flashing panels, acoustical dampeners, phone cable casing and some architectural applications. In buildings constructed after 1990, these applications are no longer applicable outside of specialized uses (shielding for medical imaging etc.).

As part of this inspection, a total of 4 paint scrape samples were collected from surfaces and represent the paint colours observed throughout the Subject Area.

Samples were submitted for laboratory analysis by ASTM D3335-85A “Standard Method to Test for Low Concentrations of Lead in Paint by Atomic Absorption Spectrophotometry” following MOE Method E3470 Inductively Coupled Plasma Optical Emission Spectrometry to Paracel Laboratories Ltd., in Ottawa, Ontario. Paracel is accredited by the Canadian Association of Laboratory Accreditation to perform bulk lead analysis of paint.

Based on the laboratory results and visual identification, lead-containing materials were confirmed present at the time of the inspection. In addition, lead-containing solder on copper pipe connections or lead pipe gaskets may potentially be concealed in buried lines or wall cavities.

### **4.1.3 Mercury**

Mercury is typically used in building service applications such as fluorescent light tubes, compact fluorescent bulbs, metal halide (sodium halide) lamp bulbs, and neon lights as a vapour. Mercury may exist in thermostats and pipe or mechanical equipment thermometers as a liquid. Mercury is presumed to be present in the above materials.

Mercury-containing materials were visually identified at the time of the inspection.

### **4.1.4 Silica**

Silica is present in rock, stone, soil, and sand. Masonry products such as concrete block, brick, and mortar, as well as concrete and associated products contain silica. Due to its ubiquitous nature, silica was historically used in a wide variety of building materials and is still used today in new construction.

Building materials that are presumed to contain silica were visually identified at the time of the inspection.

### **4.1.5 Mould**

No water damaged or mould growth impacted building materials were observed during the inspection.

### **4.1.6 Polychlorinated Biphenyls (PCB)**

Suspect PCB-containing light ballasts were visually identified during the inspection. All live electrical equipment that could not be properly and safely de-energized was not assessed, therefore light ballasts were not inspected. Light ballasts which were not accessed, will require additional investigation to determine their PCB content when removed from service.

#### 4.1.7 Ozone-Depleting Substances (ODS)

ODS are chemical compounds that include chlorofluorocarbons (cfcs), hydrochlorofluorocarbons (hcfcs), halons, methyl bromide, carbon tetrachloride, hydrobromofluorocarbons, chlorobromomethane, and methyl chloroform which are widely used in cooling and refrigeration. The use of ODS is regulated under Ontario Regulation 463/10 *Ozone Depleting Substances and Other Halocarbons Made under the Environmental Protection Act*.

Building components presumed to contain ODS were identified at the time of the inspection.

## 4.2 Conclusions and Recommendations

A detailed summary of recommended actions is provided in **Table 4.3 of Appendix A**.

In accordance with Section 30 of OHSA and Section 8 of O. Reg. 278/05, the Owner must provide a copy of this report to all contractors doing work at the building. The Owner must also provide a copy of this report to all prospective contractors.

Should any additional suspect Designated Substances be discovered during building renovation demolition, work in the vicinity should cease and the materials should not be disturbed until proper notification, testing and abatement instructions are provided. All waste generated as a result of any and all work at the Site must be handled, transported and disposed of in accordance with Ontario Regulation 347 made under the Environmental Protection Act and local by-laws. Based on the assessment findings and analytical results, the following abatement measures are presented. It should be noted that the recommended actions are the minimum required actions, as prescribed by the appropriate Acts, regulations, guidelines, standards, codes and general best practice measures.

### 4.2.1 Asbestos

ACMs were identified during the assessment. If these materials, including those deemed or suspected, will be disturbed, or will likely be disturbed, during building maintenance, renovations, construction, or demolition activities, they must be handled and disposed of in accordance with the procedures prescribed by O. Reg. 278/05.

All asbestos work must be conducted by contractors who are trained in the type of asbestos operations required, and should be overseen by a qualified third-party Health, Safety and Environmental Professional. To conduct Type 3 asbestos operations, contractors must be certified as Asbestos Abatement Workers AAW (Trade code 253W) and Asbestos Abatement Supervisors AAS (Trade code 253S) by The Ministry of Training, Colleges and Universities (Ministry of Advanced Education and Skills Development) as prescribed by Section 20 of O. Reg. 278/05. Suspect or visually confirmed ACM must be deemed to be asbestos-containing and treated as if they contain a type of asbestos other than Chrysotile.

ACM may be present in concealed locations and if construction, renovation, alteration, or maintenance activities are planned, invasive inspections of concealed locations for potential ACM must be performed prior to such activities.

Should any suspect ACM be discovered during the course of construction, renovation, alteration, or maintenance activities, work which disturbs the material must cease immediately. Suspect ACM must be treated as asbestos-containing or sampled prior to disturbance to assess the presence of asbestos.

#### 4.2.2 Lead

Lead-containing paint was identified. As such special requirements for the management, handling and disposal of lead-containing materials by the owner, constructor, contractor, sub-contractors and workers apply. The abatement contractor should consult Environmental Abatement Council of Canada's (EACC) *Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014)* for the procedures and methods required to remove and dispose of lead-containing materials.

Low level lead-containing paint is also present, and the following general procedures are recommended as a precautionary measure as per Environmental Abatement Council of Canada's (EACC) *Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014)*:

- General dust control;
- The washing of hands and face at on-site facilities;
- No smoking, eating, chewing gum or drinking in the work area; and,
- No removal of painted surfaces by means of abrasive blasting.

#### 4.2.3 Mercury

Mercury-containing materials were identified. All mercury containing materials or sources should be removed, intact, prior to any work which may disturb or damage them and cause worker exposure to mercury liquid and/or vapour.

On-site crushing of mercury-containing materials should not occur. Care should be taken to ensure safe storage of the above until recycling or disposal can be coordinated. Under current legislation, mercury waste requires handling and disposal in accordance with Ontario Regulation 490/09 of the OHSA and Ontario Regulation 347 of the Environmental Protection Act.

#### 4.2.4 Silica

Silica is presumed to be present; therefore, special requirements for management and handling are required. The contractor should also consult MOL Occupational Health and Safety Branch's Guideline: *Silica on Construction Projects* (April 2011) for the procedures and methods required to remove and dispose of silica-containing materials.

#### 4.2.5 Mould

No water damage or suspect mould growth was observed during the assessment therefore no special management and handling requirements are warranted.

It should be noted that the passage of time can alter conditions as they existed at the time of assessment. Future water intrusions may occur which could result in significant structural damage.

#### 4.2.6 Polychlorinated Biphenyls (PCB)

Suspect PCB-containing fluorescent light ballasts were identified but could not be conclusively classified as PCB-containing or non-PCB-containing.

It is the responsibility of the owner to inspect, or ensure the inspection of all light ballasts as they are removed from service to make certain they are properly classified as PCB-containing or non-PCB containing. Fixtures will require dismantling to access date stamps (located on the

back of the ballast) in order to be correctly classified in accordance with Environment Canada's document "*Identification of Lamp Ballasts Containing PCBs, Report EPS 2/CC/2 (revised), August 1991*".

Statutory Orders and Regulations (SOR)/2008-273, the *PCB Regulations*, made under the *Canadian Environmental Protection Act*, permits continued use of in-service PCB-containing light ballasts until the end of service life or until December 31, 2025.

#### **4.2.7 Ozone Depleting Substances (ODS)**

Building components presumed to contain ODS were identified and special requirements for management, handing and disposal by the owner, constructor, contractor, sub-contractors and workers apply.

Under current legislation, there are no requirements to remove ODSs from service simply because they are present. However, prior to commencing any work where this equipment will be dismantled, destroyed or disposed of, the refrigerant must be drained by a licensed technician and tagged with a notice indicating that the equipment no longer contains refrigerant. The appropriate notices or records shall be maintained in accordance with O. Reg. 463/10 for a minimum of two (2) years and shall include, but not be limited to, service records, transfers/releases of refrigerants, refrigerant types and refrigerant systems.

## 5.0 LIMITATIONS

Services performed by **MTE Consultants Inc.** (MTE) were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the Environmental Engineering & Consulting profession. No other representation expressed or implied as to the accuracy of the information, conclusions or recommendations is included or intended in this report.

This report was completed for the sole use of MTE and the Client. It was completed in accordance with the approved Scope of Work referred to in Section 2.0. As such, this report may not deal with all issues potentially applicable to the site and may omit issues that are or may be of interest to the reader. MTE makes no representation that the present report has dealt with all-important environmental features, except as provided in the Scope of Work. All findings and conclusions presented in this report are based on site conditions, as they existed during the time period of the investigation. This report is not intended to be exhaustive in scope or to imply a risk-free facility.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based upon it, are the responsibility of such third parties. MTE accepts no responsibility for liabilities incurred by or damages, if any, suffered by any third party as a result of decisions made or actions taken, based upon this report. Others with interest in the site should undertake their own investigations and studies to determine how or if the condition affects them or their plans.

It should be recognized that the passage of time might affect the views, conclusions and recommendations (if any) provided in this report because environmental conditions of a property can change. Should additional or new information become available, MTE recommends that it be brought to our attention in order that we may re-assess the contents of this report.

All of which is respectfully submitted,

**MTE Consultants Inc.**



**Aaron Rows, B.E.S.**  
Indoor Environments Technologist  
905-639-2552  
[arows@mte85.com](mailto:arows@mte85.com)



**Gavin Oakes, B.Sc., C.E.T., CIH, CRSP**  
Manager, Indoor Environments  
905-639-2552  
[goakes@mte85.com](mailto:goakes@mte85.com)

AKR

[https://mte85.sharepoint.com/sites/64457\\_006/Shared Documents/03- Reports/64457\\_006 - DSA Rpt - St Anne CES - AKR - Mar-9-26.docx](https://mte85.sharepoint.com/sites/64457_006/Shared Documents/03- Reports/64457_006 - DSA Rpt - St Anne CES - AKR - Mar-9-26.docx)

# Appendix A

---

## Tables

**TABLE 4.1: BULK ASBESTOS SAMPLE SUMMARY TABLE**

Sample #	Location	Material Description	Asbestos Results (% Type)	Is Material ACM
S01A	BASEMENT BOILER ROOM (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK MORTAR	ND	NO
S01B	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK MORTAR	ND	NO
S01C	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK MORTAR	ND	NO
S01D	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK MORTAR	ND	NO
S01E	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK MORTAR	ND	NO
S02A	MALE WASHROOM (OBSERVED IN FEMALE WASHROOM)	DRYWALL JOINT COMPOUND	ND	NO
S02B	MALE WASHROOM (OBSERVED IN FEMALE WASHROOM)	DRYWALL JOINT COMPOUND	ND	NO
S02C	MALE WASHROOM (OBSERVED IN FEMALE WASHROOM)	DRYWALL JOINT COMPOUND	ND	NO
S03A	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK PRIMER/SEALANT	ND	NO
S03B	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK PRIMER/SEALANT	ND	NO
S03C	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	CONCRETE BLOCK PRIMER/SEALANT	ND	NO
S04A	ACADEMIC WORK ROOM	2'X4' CEILING TILE - LONG FISSURE RANDOM PINHOLE	ND	NO
S04B	ACADEMIC WORK ROOM	2'X4' CEILING TILE - LONG FISSURE RANDOM PINHOLE	ND	NO
S04C	ACADEMIC WORK ROOM	2'X4' CEILING TILE - LONG FISSURE RANDOM PINHOLE	ND	NO
S05A	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	INTERIOR DOOR SEALANT	ND	NO
S05B	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	INTERIOR DOOR SEALANT	ND	NO
S05C	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	INTERIOR DOOR SEALANT	ND	NO

**NA:** Not Analyzed due to stop positive method **ND:** No asbestos fibres detected above the laboratory minimum detection limit

A bulk material sample containing 0.5% or more asbestos therefore establishes that material as asbestos-containing. In accordance with Table 1 of O. Reg. 278/05, a minimum number of samples for the material to be classified as non asbestos. A homogeneous material is defined by O. Reg. 278/05 "as material that is uniform in colour and texture". Homogeneous samples are identified by an alphabetical suffix to sample names to represent multiple samples of a homogeneous material. When a homogeneous material is analysed it is determined to be asbestos-containing upon the first positive detection of asbestos equal to or greater than 0.5%. Subsequent samples of the same material are therefore not analysed. Some bulk samples are comprised of multiple layers and as such will require multiple analysis. In such cases each layer is isolated at the laboratory and analysed individually to determine asbestos content. As a result the laboratory may report additional samples beyond the submitted number of samples or include multiple analyses as subsets within a sample.

**TABLE 4.2: LEAD IN PAINT SAMPLE SUMMARY TABLE**

Sample #	Location	Colour	Material	Lead Content (ug/g)	Classification
LP1	BASEMENT BOILER ROOM	GREEN	WALL	508	LOW LEVEL LEAD-CONTIANING
LP2	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	GREY	WALL	3,200	LEAD-CONTAINING
LP3	CORRIDOR (OBSERVED THROUGHOUT SUBJECT AREA)	BLUE	DOOR FRAMES	79	LOW LEVEL LEAD-CONTIANING
LP4	LEARNING COMMONS	WHITE	WALL	<5	LOW LEVEL LEAD-CONTIANING
<p>"&lt;": The samples analysed reported concentrations of lead to be less than 1000 ug/g and are therefore classified as low level lead-containing. However, no lead concentrations were reported above the sample specific laboratory detection limit.</p> <p>As outlined in EACO's Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014), for the purpose of classifying surface coatings and mortars by laboratory analysis, any material containing lead at a concentration:</p> <ul style="list-style-type: none"> <li>• Greater than 0.5% by weight (5,000 µg/g, mg/kg, ppm) is considered lead-based;</li> <li>• Between 0.1 % and 0.5% by weight (1,000 to 5,000 µg/g, mg/kg, ppm) is considered lead-containing; or</li> <li>• Less than 0.1% (1,000 µg/g, mg/kg, ppm) is considered low level lead-containing.</li> </ul>					

**Table 4.3 - Summary of Designated Substances and Recommended Actions**

**127 Elgin Street North, Cambridge, Ontario**

<b>Material</b>	<b>Location(s)</b>	<b>Material Description</b>	<b>Management Requirements If No Impacts to Material</b>	<b>Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities</b>
<b>Asbestos Non-Friable</b>	Stage Stairwell	9"x9" White with Grey Streaks Vinyl Floor Tiles and Associated Mastic	In place management in accordance with O. Reg. 278/05	Removal in accordance with O. Reg. 278/05 as a Type 1 Operation
<b>Asbestos Non-Friable</b>	Custodian Office	12"x12" White with Grey Fleck Floor Tile	In place management in accordance with O. Reg. 278/05	Removal in accordance with O. Reg. 278/05 as a Type 1 Operation
<b>Potentially Concealed Asbestos</b>	Wall Cavities and pipe chases	Pipe Fittings	In place management in accordance with O. Reg. 278/05	Sample prior to maintenance/renovations/ construction/demolition activities and if confirmed ACM, removal in accordance with O. Reg. 278/05
<b>Potentially Concealed Asbestos</b>	Boiler Room	Duct Expansion Joints	In place management in accordance with O. Reg. 278/05	Sample prior to maintenance/renovations/ construction/demolition activities and if confirmed ACM, removal in accordance with O. Reg. 278/05
<b>Potentially Concealed Asbestos</b>	Electrical Wiring Throughout Interior of Building	Jacketing on Electrical Wiring	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
<b>Potentially Concealed Asbestos</b>	Wall Cavities	Vermiculite Loose-Fill Insulation	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
<b>Potentially Concealed Asbestos</b>	Toilet Fixtures	Pipe Gasket/Flange at Floor Connection	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
<b>Potentially Concealed Asbestos</b>	Underground Piping Systems	Asbestos Cement (Transite) Pipe	In place management in accordance with O. Reg. 278/05	Invasive inspection prior to maintenance/renovations/construction/demolition activities, if present and sampling confirms as ACM, removal in accordance with O. Reg. 278/05
<b>Lead-Containing Paint</b>	Throughout Interior	Grey Paint on Walls	In place management in accordance with EACC's Lead Guideline	Removal as required prior to maintenance, renovations, construction or demolition activities in accordance with EACC's Lead Guideline as a: Class 1, Class 2A, Class 3A, or a Class 3B Operation
<b>Low Level Lead-Containing Paint</b>	Throughout Interior	Blue Paint on Door Frames	None	General hygiene procedures during renovation activities: <ul style="list-style-type: none"> <li>• General dust control,</li> <li>• Washing of hands and face at on-site facilities,</li> <li>• No smoking, eating, chewing gum or drinking in the work area,</li> <li>• No abrasive blasting.</li> </ul>
	Basement Boiler Room	Green Paint on Walls		
	Learning Commons	White Paint on Walls		

**Table 4.3 - Summary of Designated Substances and Recommended Actions**

**127 Elgin Street North, Cambridge, Ontario**

<b>Material</b>	<b>Location(s)</b>	<b>Material Description</b>	<b>Management Requirements If No Impacts to Material</b>	<b>Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities</b>
<b>Potentially Concealed Lead</b>	Throughout Interior of Building on Plumbing Connections	Lead Solder on Copper Pipe	In place management in accordance with EACC's Lead Guideline	Invasive inspection prior to renovation or demolition activities. If confirmed present, removal in accordance with EACC's Lead Guideline as a: Class 1 Operation
<b>Potentially Concealed Lead</b>	Concealed on Sanitary/Waste Lines	Lead Packed Pipe Gaskets	None	Invasive inspection prior to renovation or demolition activities. If confirmed present, removal in accordance with EACC's Lead Guideline as a: Class 1 Operation
<b>Mercury</b>	Throughout Interior of Building in Light Fixtures	Fluorescent Light Tubes in Light Fixtures	None	Intact removal and storage with no on-site crushing and disposal of materials to a licensed facility
<b>Silica</b>	Throughout Interior and Exterior of Building	Brick and Mortar, Terrazzo, Stucco, Refractory Brick, Concrete	None	Conduct any work during renovation, demolition activities in accordance with the Ministry of Labour Guideline Silica on Construction Projects
<b>Potentially Concealed PCBs</b>	Light Fixtures Throughout	Fluorescent Light Ballasts in Light Fixtures	SOR/2008-273, the PCB Regulations, permits continued use of in-service PCB-containing light ballasts until the end of service life or until December 31, 2025	Assess Each Ballast Upon Removal From Service Appropriate storage and disposal of any PCB-containing ballasts in accordance with SOR/2008-273
<b>ODS</b>	Roof	Rooftop Air Conditioning Units	None	Prior to the removal and disposal of equipment suspected of containing ODS, a licensed technician should be retained to drain and tag the equipment in a manner authorized under O. Reg. 463/10

**Table 4.3 - Summary of Designated Substances and Recommended Actions**

**127 Elgin Street North, Cambridge, Ontario**

<b>Material</b>	<b>Location(s)</b>	<b>Material Description</b>	<b>Management Requirements If No Impacts to Material</b>	<b>Recommended Actions If Material Will Be Or Likely Be Impacted By Maintenance, Renovation, Construction or Demolition Activities</b>
-----------------	--------------------	-----------------------------	--	--

Notes:

- 1) A copy of this report should be provided to all prospective contractors prior to quotation, in accordance with Section 30 of the Occupational Health and Safety Act.
- 2) Recommended actions are the minimum required actions, as prescribed by the appropriate Acts, regulations, guidelines, standards, codes and general best practice measures. Prior to demolition, the Contractor may choose to alter the approach and combine or break out sections of work. This is acceptable provided that the appropriate Acts, regulations, guidelines, standards and codes are followed and afford protection for the health and safety of workers, occupants and the public that is at least equal to the protection that would be provided by complying with the minimum requirements.
- 3) All waste generated is subject to characterization and disposal in accordance with Ontario Regulation 347.

# Appendix B

---

## Laboratory Certificates of Analysis

## Certificate of Analysis

**MTE Consultants Inc. (Burlington)**

1016 Sutton Drive, Unit A  
Burlington, ON L7L 6B8  
Attn: Gavin Oakes

Client PO: 64457\_006

Project: 64457\_006 - St. Anne DSA

Custody:

Report Date: 4-Mar-2026

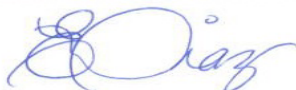
Order Date: 4-Mar-2026

**Order #: 2610193**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Parcel ID	Client ID
2610193-01	S01A - CBM
2610193-02	S01B - CBM
2610193-03	S01C - CBM
2610193-04	S01D - CBM
2610193-05	S01E - CBM
2610193-06	S02A - DWJC
2610193-07	S02B - DWJC
2610193-08	S02C - DWJC
2610193-09	S03A - CB Seal/Primer
2610193-10	S03B - CB Seal/Primer
2610193-11	S03C - CB Seal/Primer
2610193-12	S04A - CT - LFRP
2610193-13	S04B - CT - LFRP
2610193-14	S04C - CT - LFRP
2610193-15	S05A - Int. Door Sealant
2610193-16	S05B - Int. Door Sealant
2610193-17	S05C - Int. Door Sealant

Approved By:



Emma Diaz

Lab Manager

Certificate of Analysis  
 Client: MTE Consultants Inc. (Burlington)  
 Client PO: 64457\_006

Report Date: 04-Mar-2026  
 Order Date: 4-Mar-2026  
 Project Description: 64457\_006 - St. Anne DSA

**Asbestos, PLM Visual Estimation MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2610193-01	03-Mar-26	Grey	Mortar	No	Client ID: S01A - CBM Material: Non-Fibers	100
2610193-02	03-Mar-26	Grey	Mortar	No	Client ID: S01B - CBM Material: Non-Fibers	100
2610193-03	03-Mar-26	Grey	Mortar	No	Client ID: S01C - CBM Material: Non-Fibers	100
2610193-04	03-Mar-26	Grey	Mortar	No	Client ID: S01D - CBM Material: Non-Fibers	100
2610193-05	03-Mar-26	Grey	Mortar	No	Client ID: S01E - CBM Material: Non-Fibers	100
2610193-06	03-Mar-26	White	Drywall Joint Compound	No	Client ID: S02A - DWJC Material: Non-Fibers	100
2610193-07	03-Mar-26	White	Drywall Joint Compound	No	Client ID: S02B - DWJC Material: Non-Fibers	100
2610193-08	03-Mar-26	White	Drywall Joint Compound	No	Client ID: S02C - DWJC Material: Non-Fibers	100
2610193-09	03-Mar-26	White/Blue	Seal/Primer	No	Client ID: S03A - CB Seal/Primer Material: Non-Fibers	[Z-01] 100
2610193-10	03-Mar-26	White/Blue	Seal/Primer	No	Client ID: S03B - CB Seal/Primer Material: Non-Fibers	[Z-01] 100
2610193-11	03-Mar-26	White/Blue	Seal/Primer	No	Client ID: S03C - CB Seal/Primer Material: Non-Fibers	[Z-01] 100
2610193-12	03-Mar-26	Grey	Ceiling Tile	No	Client ID: S04A - CT - LFRP Material: Cellulose MMVF Non-Fibers	40 30 30

Certificate of Analysis  
 Client: MTE Consultants Inc. (Burlington)  
 Client PO: 64457\_006

Report Date: 04-Mar-2026  
 Order Date: 4-Mar-2026  
 Project Description: 64457\_006 - St. Anne DSA

**Asbestos, PLM Visual Estimation MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2610193-13	03-Mar-26	Grey	Ceiling Tile	No	Client ID: S04B - CT - LFRP Material:	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
2610193-14	03-Mar-26	Grey	Ceiling Tile	No	Client ID: S04C - CT - LFRP Material:	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
2610193-15	03-Mar-26	Grey/Blue	Caulking	No	Client ID: S05A - Int. Door Sealant Material:	
					Non-Fibers	100
2610193-16	03-Mar-26	Grey/Blue	Caulking	No	Client ID: S05B - Int. Door Sealant Material:	
					Non-Fibers	100
2610193-17	03-Mar-26	Grey/Blue	Caulking	No	Client ID: S05C - Int. Door Sealant Material:	
					Non-Fibers	100

Total Analyses = 17

**Analysis Summary Table**

Analysis	Method Reference/Description	Lab Location	Lab Accreditation	Analysis Date
Asbestos, PLM Visual Estimation	EPA 600/R-93/116	1 - Mississauga	CALA 3762	4-Mar-26

Mississauga Lab: 15 - 6800 Kitimat Rd Mississauga, Ontario, L5N 5M1

**Qualifier Notes**

Sample Qualifiers :

Z-01: Material appears to be paint.

**Work Order Revisions | Comments**

None

Certificate of Analysis

Report Date: 04-Mar-2026

Client: MTE Consultants Inc. (Burlington)

Order Date: 4-Mar-2026

Client PO: 64457\_006

Project Description: 64457\_006 - St. Anne DSA

**Other Report Notes**

Samples were analysed as received. Paracel is not responsible for inherent analytical limitations. Analytes in bold indicate asbestos mineral content. All samples where asbestos is detected below 1% include quantity verification with additional analysis steps including gravimetric reduction and/or point counting. Problem matrices, such as those high in cellulose and/or non-friable organically bound materials, routinely include additional gravimetric reduction to remove interfering fibers/binders. Content denoted as '<MDL' indicates trace asbestos was observed below the noted detection limit, but could not be accurately quantified. Content denoted as 'Present' indicates that only a qualitative analysis was possible as a consequence of the sample matrix. Sample collection according to the regulation/method recommendations is the responsibility of the client.

MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool



## Certificate of Analysis

### MTE Consultants Inc. (Burlington)

1016 Sutton Drive, Unit A  
Burlington, ON L7L 6B8  
Attn: Gavin Oakes

Client PO: 64457\_006  
Project: 64457\_006 - St. Anne DSA  
Custody:

Report Date: 4-Mar-2026  
Order Date: 4-Mar-2026

**Order #: 2610191**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
2610191-01	LP01 - Green
2610191-02	LP02 - Grey
2610191-03	LP03 - Blue
2610191-04	LP04 - White

Approved By:



Alex Enfield, MSc  
Lab Manager

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Report Date: 04-Mar-2026

Client: MTE Consultants Inc. (Burlington)

Order Date: 4-Mar-2026

Client PO: 64457\_006

Project Description: 64457\_006 - St. Anne DSA

**Analysis Summary Table**

Analysis	Method Reference/Description	Lab Location	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	Hamilton	4-Mar-26	4-Mar-26

Qualifier Notes:

Sample Data Revisions

None

Work Order Revisions/Comments:

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Certificate of Analysis

Report Date: 04-Mar-2026

Client: MTE Consultants Inc. (Burlington)

Order Date: 4-Mar-2026

Client PO: 64457\_006

Project Description: 64457\_006 - St. Anne DSA

### Sample Results

Lead					Matrix: Paint	
Parcel ID	Client ID	Sample Date	Units	MDL	Result	
2610191-01	LP01 - Green	2-Mar-26	ug/g	5	508	
2610191-02	LP02 - Grey	2-Mar-26	ug/g	5	3200	
2610191-03	LP03 - Blue	2-Mar-26	ug/g	5	79	
2610191-04	LP04 - White	2-Mar-26	ug/g	5	<5	

### Laboratory Internal QA/QC

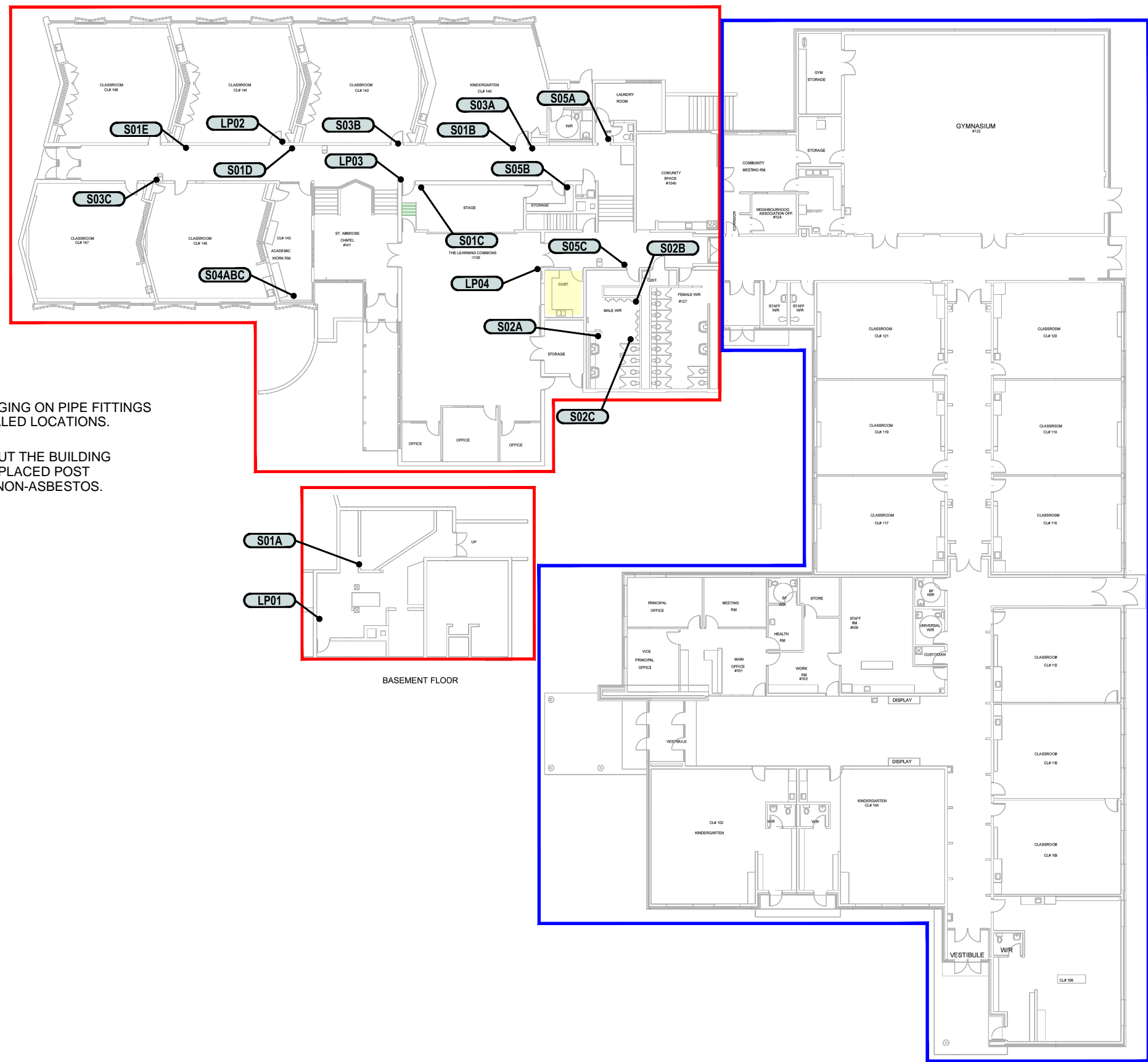
Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Matrix Blank</b>									
Lead	ND	5	ug/g						
<b>Matrix Duplicate</b>									
Lead	ND	5	ug/g	28.5			NC	50	
<b>Matrix Spike</b>									
Lead	47.0	5.00	ug/g	ND	91.6	70-130			



# Appendix C

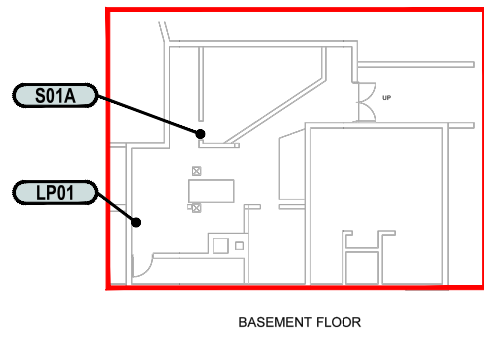
---

## Figures



ASBESTOS-CONTAINING PARGING ON PIPE FITTINGS MAY BE PRESENT IN CONCEALED LOCATIONS.

ROOF SECTIONS THROUGHOUT THE BUILDING WERE CONSTRUCTED OR REPLACED POST 1990 AND ARE CONSIDERED NON-ASBESTOS.



**Notes:**  
 ALL DRAWINGS TO BE REFERENCED WITH THE DSA REPORT. LOCATIONS AND QUANTITIES ARE APPROXIMATE.  
 ALL KNOWN OR SUSPECT DESIGNATED SUBSTANCES ARE NOT DEPICTED ON THIS FIGURE. REFER TO THE DSA REPORT FOR A COMPLETE LIST OF IDENTIFIED KNOWN AND SUSPECT DESIGNATED SUBSTANCES.  
 THIS FIGURE IS COLOUR DEPENDENT, PHOTOCOPIES MAY ALTER INTERPRETATION OF FIGURE. ALWAYS REFER TO ORIGINAL DRAWINGS AND DSA REPORT.

**Designated Substances and Hazardous Materials Legend**

- S01A Sample Identification
- Subject Area
- Post 1990 Construction
- Asbestos-containing vinyl floor tile
- Asbestos-containing vinyl floor tile and mastic



Ph. (905) 639-2552 www.mte85.com

**CLIENT**  
 Waterloo Catholic District School Board

**PROJECT**  
 DESIGNATED SUBSTANCE ASSESSMENT

**DRAWING**  
 SITE PLAN  
 127 ELGIN STREET NOTH  
 CAMBRIDGE, ON

Project Manager	G. OAKES	Date	MARCH 2026
Baseplan By	MTE	Project No.	64457_001
Figure By	SXS	Drawing No.	1.0
Scale	N.T.S.		

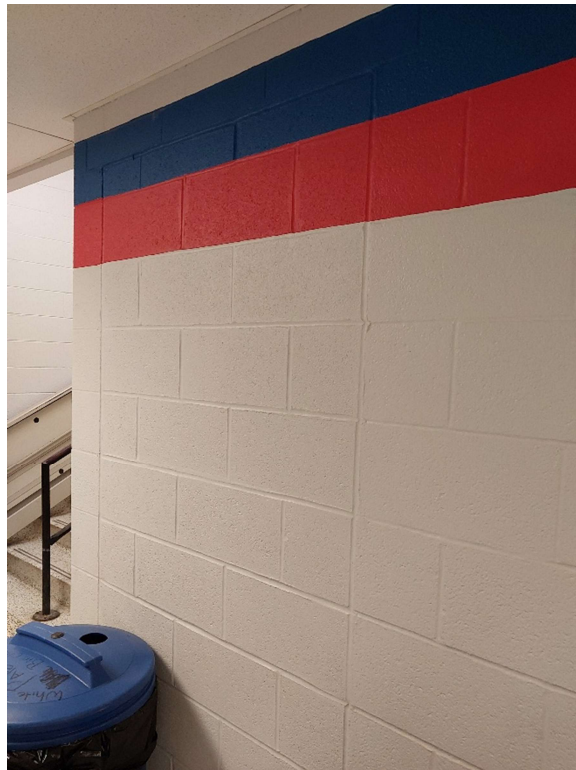
# Appendix D

---

## Photographic Log



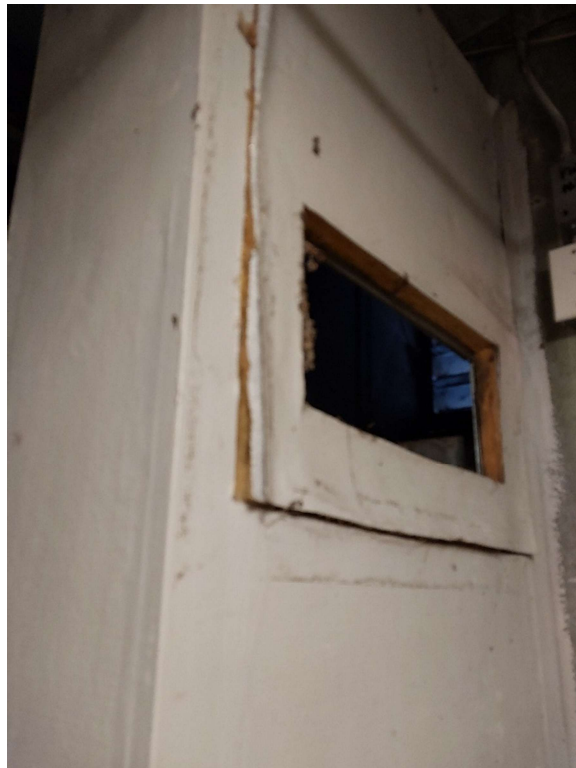
**Photograph No. 1 – Sealant was observed on interior door frames. The sealant was sampled (S05A,B,C) and does not contain asbestos. Blue paint on frames observed throughout the subject area was sampled (LP03) and is confirmed low level lead-containing.**



**Photograph No. 2 – Grey paint was observed on walls throughout the subject area. The grey paint was sampled (LP02) and is confirmed lead-containing.**



**Photograph No. 3 – 2'x4' small fissure random pinhole ceiling tile was observed throughout the building. The ceiling has a post-1990 date stamp is not considered asbestos-containing.**



**Photograph No. 4 – Fiberglass insulation was observed on ventilation within the basement boiler room and is not asbestos-containing.**



**Photograph No. 5 – Mercury-containing fluorescent light tubes were observed throughout the interior. Associated light ballasts could not be inspected and may contain PCBs.**



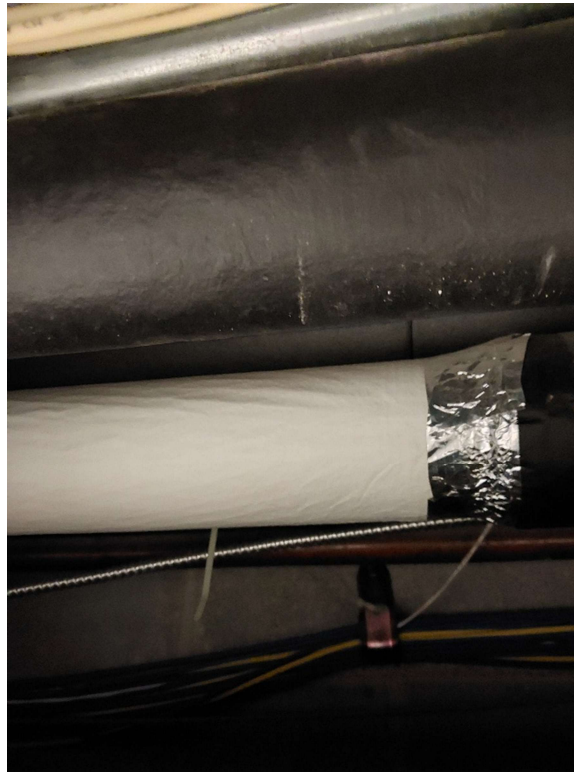
**Photograph No. 6 – Drywall bulkheads were observed in the boys and girls washrooms. The drywall compound was sampled (S02A,B,C) and does not contain asbestos.**



**Photograph No. 7 – Concrete block mortar was observed throughout the interior and was sampled (S01A,B,C,D,E). The block mortar does not contain asbestos. The associated primer/sealant was also sampled (S03A,B,C) and does not contain asbestos.**



**Photograph No. 8 – Green paint within the basement boiler room was sampled (LP01) and is confirmed low level lead-containing.**



**Photograph No. 9 – Non-Asbestos fiberglass pipe insulation was observed above the drop ceiling within the Subject Area. Asbestos-containing pipe fittings were reported in a previous report and maybe concealed behind finishes.**



**Photograph No. 10 – 2'x4' Long fissure random pinhole was observed in the academic work room 143. The ceiling tile was sampled (S04A,B,C) and does not contain asbestos.**

## Part 1 General

### 1.1. PROCEDURE

- .1 The manner in which cash allowances and contingency allowances will be addressed is as specified in the Contract Documents as amended by the Supplementary General Conditions.
- .2 No expenditure against Cash Allowances shall be made or incurred except as instructed by the Consultant in writing.
- .3 No additional mark up for the Contractor's expense and profit will be allowed where individual specific purpose Cash Allowances are exceeded.
- .4 The amounts listed are deemed to be all inclusive but not to include Value Added Taxes (H.S.T.).

### 1.2. SPECIFIC PURPOSE CASH ALLOWANCES

Refer to CCDC 2 .

2. Include in the Contract Price the cash allowances stated herein.
3. Expenditures under cash allowances shall occur only with Consultant's prior consent
4. Where costs under cash allowances exceed the total amount of the cash allowances indicated by less than 10% of the aggregated stated values, the Contractor will be compensated for any excess incurred and substantiated, without any allowance for overhead and profit.
5. Where costs under cash allowances exceed the total amount of the cash allowances indicated by more than 10% of the aggregate stated values, the Contractor will be compensated for any excess incurred and substantiated plus an allowance for overhead and profit as set out in the Contract Documents.
6. Progress payments on accounts of work authorized under cash allowances shall be included in the Consultant's monthly certificate for payment. Submit invoices in support of claims.
7. Where costs under a specific cash allowance exceed of the amount of the allowance, unexpended amounts from other specific cash allowances shall be reallocated at the Consultant's direction to cover the shortfall.
8. The amount of allowance covers for the school, for Work specified in the respective specification Sections, shall be **One Hundred Sixty-Four Thousand Nine Hundred Dollars (\$164,900.00)** not including Harmonized Sales Tax (HST):
  - Finish Hardware: Supply ONLY. Installation Part of the Base Bid
  - Terrazzo
  - BAS
  - Testing and Inspection
  - Abatement
  - Exit 9 new fob reader

**END OF SECTION**

## 1. GENERAL

### 1.1. GENERAL REQUIREMENTS

- a. Division One, General Requirements, shall apply as if repeated here.

### 1.2. PROTECTION

- a. Mark the presence of each light with a large temporary cross.

### 1.3. SAMPLES AND SUBMITTALS

- a. Submit duplicate 300 x 300mm (12 x 12") size samples illustrating insulated glass and spandrel glass units, decorative glass, colouration and fabrication. Submit associated data sheets for glass units. (SB-10)
- b. Submit samples as specified in Section 01340.

### 1.4. RELATED WORK

- a. Door and Frame Schedule – General Notes
- b. Steel doors and frames

### 1.5. WARRANTY

- a. Provide a written warranty signed and issued in the name of the Client and Project stating that the Contractor warrants insulating glass units against failure of seal of enclosed air space and deposits on inner faces of glass detrimental to vision in accordance with GC 12.3 as amended by the Supplementary General Conditions, but for a period of five years.

## 2. PRODUCTS

### 2.1. GLASS MATERIALS

- a. Polished plate or float glass: to CAN/CGSB-12.3-M latest revised edition and amendments, glazing quality, 6mm (0.25") thick, unless specifically indicated otherwise.
- b. Heat Treated Tempered Safety Glass: to CAN/CGSB-12.1-M; clear float glass fully tempered horizontally to achieve net strength of not less than 4 to 5 times greater than regular annealed glass; Class C; 6mm (0.25") thick, unless indicated otherwise.
- c. Heat Strengthened Glass: to CAN/CGSB-12.1-M; clear float glass heat strengthened horizontally to achieve a net strength of not less than 2 times greater than regular annealed glass; 6mm (0.25") thick, unless indicated otherwise.
- d. Low Emissivity (E) Glass: 6mm (0.25") thick; tempered or heat-strengthened as indicated;
  - 1) insulated glass: vacuum-sputtered coating on second surface. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31. (SolarBan 60)
  - 2) non-insulated glass: pyrolitic coating.

- e. Insulated Glass: as per a./b. above, double sealed edge binding, 13mm (1/2") argon filled space, exterior lite colour LIGHT GREY, low-e coating on 2<sup>nd</sup> surface (SolarBan 60), warm edge spacer, provide sample for approval. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31 min. VT/SHGC to be 1.10.
- f. Sealed Opaque Glass units- to CAN/CGSB-12.9-M; 6mm (0.25") thick tempered tinted glass with opaque coating applied to #2 and #3 surface; eg. Opaci-Coat 300 by ICD High Performance Coatings; warm edge spacer, 13mm (1/2") argon filled space, 6mm thick tempered glass, colour as selected by Consultant.
- g. Sealed Obscure Glass units: as per a./b. above, double sealed edge binding, 13mm (1/2") argon filled space, exterior lite colour LIGHT GREY, warm edge spacer, low E coating (solar ban 60) on second surface, Acid Etch surface #3. Provide sample for approval. Centre of glass winter u-factor to be .24. Maximum SHGC to be .31.
- h. Laminated safety glass: to CAN2-12.1-M latest revised edition and amendments, glazing quality, 6mm (0.25") thick, two layers of 3mm glass on vinyl sheet.
- i. Mirror Glass: to CAN/CGSB-12-5-M latest revised edition and amendments, Type 18 float glass, 6mm (0.25") thick minimum; polished edges; sizes as scheduled or noted on Drawings.
- j. Spandrel Glass: to CAN/CGSB-12.9-M; 6mm (0.25") thick single pane of tinted glass as specified above, with opaque coating applied to #2 surface; eg. Opaci-Coat 300 by ICD High Performance Coatings; coating colour as selected by Consultant.
- m. Fire-Rated Laminated Safety Glass : to CAN4-S104-M80 and CAN4-S106-M80, premium polished glass-ceramic fire-rated glazing;
  - 1) FireLite Plus, manufactured by Nippon Electric Glass Company Ltd., 8mm (5/16") thick, single pane, installed in accordance with ULC R13377 or; Schott Pyran Platinum L 9mm (3/8"); or Karalite Select L 8mm (3/8").
- n. Decorative Window Film: LLumar Decorative Custom Imaging Film manufactured by an Eastman Chemical Company business: CPFilms Inc., 575 Maryville Centre Drive, St. Louis, Missouri 63141; Telephone: 800-255-8627; Email address: [commercialalerts@eastman.com](mailto:commercialalerts@eastman.com); Web Site: [www.llumar.com](http://www.llumar.com).

## 2.2. GLAZING AND SEALING COMPOUND MATERIALS

- a. Glazing compound: Oil type, to CGSB 19-GP-6M Type 1, colour of frames.
- b. Sealant compound: To Section 07910.
- c. Glazing tape: Preformed butyl tape, 10-15 durometer hardness, paper release, 3.2mm (0.125") thick x 40mm (1.6") wide, colour to match frames.
- d. Setting blocks: Neoprene, Shore "A" 100mm (4") long x 9mm (0.35") thick x 6mm (0.25") high.

- e. Spacer shims: Neoprene, Shore "A" 75mm (3") long x 2.4mm (0.09") thick x 6mm (0.35") high.
- f. Glazing splines: Neoprene manufacturer's standard dry glazing splines to relate to colour of aluminum.
- g. Glazing points and wire spring clips: Corrosion resistant, manufacturer's standard.
- h. Primer-sealers and cleaners: to glass manufacturer's standard.

### 2.3. GLAZING SCHEDULE

#### .1 **Insulating Glass Units (GL-1)**

.1 Insulating Glass to: CAN/CGSB – 12.8 Double unit. Glass to : CAN/CGSB -12.1 – Safety Glass.

.2 Warm edge, hermetically sealed, minimum 6mm each lite. Minimum 13 mm space – argon filled double sealed (primary to be polyisobutylene, secondary to be polysulphide or structural silicone glazed units), desiccant filled Bayform "Thermal Edge" spacer (black) with splice connectors at corner of each glass unit.

- .1 IGMAC Certified.
- .2 Low E coating on surface #3.
- .3 Acceptable Products
- .4 AGC/AFGD'Comfort Ti-AC 40'
- .5 PPG 'Solarban 60'
- .6 Cardinal 'LoE2 -172'
- .7 Versalux
- .8 Viracon 'Solarscreen 2000 VE 1-2M'

.3 Glass Thickness: 6mm minimum or as required to meet design requirements.

.4 Glass Type: Annealed, heat strengthened, or tempered as required to meet design requirements.

.5 Performance Requirements:

- .1 Visible light: 68 - 70%.
- .2 U-value: Fixed=0.38; Operable=0.45
- .3 Shading Coefficient: within 0.43 - 0.46.
- .4 Solar heat gain coefficient: within 0.37 - 0.40.
- .5 Glass Colour: Tinted, as selected by the architect unless otherwise noted.
- .6 Type 1 exterior lite: tinted, tempered, body colour by architect.
- .7 interior lite: clear, low emissivity coating on third surface
- .8 Type 2 exterior lite: tinted, tempered, body colour by architect
- .9 interior lite: clear, tempered, low emissivity coating on third surface of interior lite.

#### .3 **Tempered Glass (GL-2):**

.1 Shall be 6 mm tempered glass to meet National Building Code Safety Glass requirements in Sub-Section 3.3.1.13 (1) (2) and to

---

conform to current national standards of Canada CAN2-12.1-M79.

### 3. EXECUTION

#### 3.1. WORKERSHIP

- a. Remove protective coatings and clean contact surfaces with solvent and wipe dry.
- b. Apply primer-sealer to contact surfaces.
- c. Place setting blocks as per manufacturer's instructions.
- d. Install glass, rest on setting blocks, ensure full contact and adhesion at perimeter.
- e. Install removable stops, without displacing tape or sealant.
- f. Provide edge clearance of 3mm (0.12") minimum.
- g. Inset spacer shims to centre glass in space. Place shims at 600mm (24") o.c. keep 6mm (0.25") below sight line.
- h. Apply cap bead of sealant at exterior void.
- i. Apply sealant to uniform and level line, flush with sight line and tooled or wiped with solvent to smooth appearance.
- j. Do not cut or abrade tempered, heat treated, or coated glass.
- k. Door and screen glazing to be tempered, unless noted otherwise on Drawings.
- l. Exterior glazing to be tinted, tempered glass including windows, doors and screens, unless noted otherwise on the Door Schedule.
- m. Fixed exterior glass to be insulated units.
- n. Sloped glazing to be insulated with tinted, tempered exterior light, laminated safety glass interior light.
- o. Refer to DOOR SCHEDULE for locations of wired glass and fire-rated laminated safety glass.

#### 3.2. EXTERIOR GLAZING: Combination method - tape / sealant:

- a. Cut glazing tape to proper length and set against permanent stops, 5mm (0.2") below sight line. Install horizontal strips first, extend over entire width of opening before applying vertical strips. Weld corners together by butting tape and dabbing glass and applied stop with silicone sealant.
- b. Fill gap between glass and applied stop with sealant to depth equal to bite of frame on glass but not more than 10mm (0.4") below sight line.

#### 3.3. INTERIOR GLAZING: Dry method - tape / tape:

- a. Cut glazing tape to length and install against permanent stop, project 1.5mm (0.06") above sight line.
- b. Place glazing tape on free perimeter of glass as described above.

#### 3.4. FIRE-RATED LAMINATED SAFETY GLASS:

- a. Fire-rated laminated safety glass shall only be installed into fire-rated frame assemblies of the same rating.
- b. Install in vision panels in fire-rated doors to requirements of NFPA 80.

c. All glazing components, tapes, compounds, sealants and stop heights must be chosen and installed according manufacturer's recommendation and appropriate ULC classification.

d. Install so that the ULC or manufacturer's rating label remain permanently visible for each pane.

3.5. FINISHING

a. Immediately remove sealant and compound droppings from finished surfaces. Remove labels after work is completed. Clean both sides of glass.

**END OF SECTION**

---

**PART 1 - GENERAL**

.1 **Description**

.1 **General Requirements**

Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

.2 **Work Performed by Other Sections related to this Section is specified in:**

Section 04200 – Unit Masonry  
Section 09250 - Gypsum Drywall

.2 **Material Supply**

.1 All tile will be supplied new to the work of this section.

.3 **Quality Assurance**

.1 **Subcontractor Qualifications**

Perform tile installation specified in this Section only by a Subcontractor who has adequate plant, equipment, and skilled tradesmen to perform it expeditiously, and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five years.

.4 **References**

.1 **Reference Standards**

Reference standards quoted in Contract Documents refer to:

ANSI A108.1-1976, American National Standard Specifications for Installation of Ceramic Tile.

ANSI A118.1-1976, American National Standards Specifications for Dry-Set Portland Cement Mortar.

ANSI A118.3-1976, American National Standard Specifications for Chemical Resistant Water-Cleanable Tile-Setting and Grouting Epoxy.

ASTM C206-79, Specification for Finishing Hydrated Lime.

ASTM C207-79, Specification for Hydrated Lime for Masonry Purposes.

CAN/CGSB-75.1-M77, Tile, Ceramic.

CAN/CSA-A5-M83, Portland Cements.

.5 **Submittals**

.1 **Samples**

Submit 300mm x 300mm panels, or at least 4 units, of tile selected at random from stock.

.2 **Maintenance Instructions**

Submit maintenance instructions for incorporation in Project Data Book.

.6 **Site Conditions**

.1 **Environmental Requirements**

Install tile only when base surfaces and air temperatures have been maintained

---

between 10°C and 21°C for 72 hours preceding installation and until setting materials have cured.

**.7 Warranty**

**.1 Extended Warranty**

Submit a warranty of tile products and installation specified in this Section covering the period for one year beyond the expiration of the warranty period specified in the General Conditions to the Contract. The total warranty period is three (3) years.

**PART 2 - PRODUCTS**

**.1 Materials**

**.1 Setting**

- .1 Floor Tile – TEC 382 mortar
- .2 Portland Cement: To meet specified requirements of CAN/CSA-A5-M83.
- .3 Hydrated Lime: To meet specified requirements of ASTM Specification C206 or C207 for Type S.
- .4 Sand: To meet specified requirements of CSA Specification A82.56, passing 1.6mm sieve. Use white sand for white grout.
- .5 Water Potable, containing no contaminants which cause efflorescence.
- .6 Thin (Dry) Set Mortar: Bond coat to meet specified requirements of ANSI Standard A118.1, and CGSB Specification 71-GP-30M, Type 2; Keroflex by Mapei, or approved alternative by Laticrete International.
- .7 Setting and Grouting Epoxy; To meet specified requirements of ANSI Specification A118.3, Kera color Floor or Kera color Wall by Mapei or approved alternative by Laticrete International.
- .8 Additives: for mortar: to meet specified requirements of ANSI Standard A118.4 and CGSB Specification 71-GP-30M, Type 2; acrylic latex; Keraply by Mapei.  
: for grout: to meet specified requirements of ANDI Standard A118.6, Kerapoxy by Mapei.
- .9 Colour Pigment: Non-fading mineral oxides or carbon black emulsion, unaffected by lime or cement, and which will not stain tile.
- .10 Primer: To meet requirements of supplier of bond coat.
- .11 Dry Curing Grout: Premixed, dry set, as recommended by tile supplier.

**.2 Ceramic Floor Tile**

- .1 N/A

**.3 Wall tile**

- CT-1 – Nara - by Centura
- CT-2 – Florencia –by Centura
- CT-3 – Florencia –by Centura
- Or similar
- Colour to be selected by client

**.3 Grout**

- .1 Kerapoxy by Mapei for all wall tile applications. Colour TBD

- 
- .4 **Cleaner**  
To meet specified requirements of #1000 Series of Terrazzo, Tile and Marble Association of Canada.
  
  - .5 **Galvanizing**  
To meet specified requirements of ASTM Specifications A525, AF275 Coating Designation for sheet steel: A153 Class B.3 Coating, for hardware, Class 3 Coating, for wire and rods.
  
  - .2 **Flooring Accessories**
    - 1. Schluter finishing strip. Finish to be brushed nickel.
      - 1.1 **Wall-**  
Edge protection: Schluter – Jolly profile.

### **PART 3 - EXECUTION**

- .1 **Examination**
  - .1 Ensure that environmental conditions and backing surfaces have been provided according to specified requirements.
  - .2 Defective tile installation resulting from application to unsatisfactory surfaces will be considered the responsibility of this Section.
  
- .2 **Preparation**
  - .1 **Protection**  
Prevent traffic and construction by other Sections on newly laid tile by barricading areas for at least 48 hours following installation.
  
- .3 **Installation**
  - .1 **General**
    - .1 Install tile in accordance with details and specifications of Terrazzo, Tile and Marble Association of Canada Installation Manual 200-1979, Ceramic Tile, as applicable, and otherwise in accordance with ANSI Specification A108.1
    - .2 Lay out tile according to architectural drawings such that fields are centered on areas, with no tiles of less than half size included. Maintain heights of panels in full courses to nearest indicated dimension.
    - .3 Lay tile on vertical surfaces with joints plumb and level.
    - .4 Lay tile on floors with joints parallel to walls, at right angles to each other except where pattern is indicated on drawings.
    - .5 Lay tile so that wall and floor joints are in line.
  - .2 **Setting**
    - .1 Place as much tile as possible in one operation before setting bed reaches initial set. Clean back and remove bed when it has set before tile is laid.
    - .2 Prime entire backing surface for bond coats.
    - .3 Immediately prior to applying mortar bed over concrete or concrete block, evenly saturate substrate with clean water.
    - .4 Line up joints between tile installed on stairs from tread to tread.

**.3 Tile**

- .1 Leave or cut openings to correct sizes to receive accessories, fittings, or other items built into tile.
- .2 Cut and grind tile accurately, and without damage, to fit openings, at intersections and against trim finish. Rub exposed cut edges smooth with abrasive stone.
- .3 Drill tile for hardware and for pipes where possible. Otherwise at pipes and fittings, fit tile closely so that escutcheons cover cuts.
- .4 Extend tile into recesses at windows, doors, or other openings.
- .5 Extend wall tile behind fitments, mirrors and other applied items of a fixed nature, by a sufficient amount to ensure overlap.
- .6 Joint Width: 1.6mm wide between ceramic tile units.
- .7 Provide joints coloured to match tile.

**.4 Grouting**

- .1 Remove spacers, strings, ropes or pegs before grouting.
- .2 Grout tile joints in accordance with grout manufacturer's directions and to fill joints solidly.
- .3 Fill all gaps and skips, cover setting bed completely. Ensure finish grout is uniform in colour, smooth and without voids, pinholes or low spots.
- .4 Damp cure grout for at least 72 hours.

**.4 Adjustment**

- .1 Before Project completion, remove and replace defective, damaged, loose, and unbonded tile; and point defective joints.
- .2 Wash tile surfaces with water.
- .3 Wash unglazed surfaces with #1000 Series cleaner. Use 5% solution of muriatic acid only when preceded and followed by a complete drenching of clean water, and only when other cleaning methods are insufficient.

**.5 Cleaning**

**.1 Cleaning on Completion of Installation**

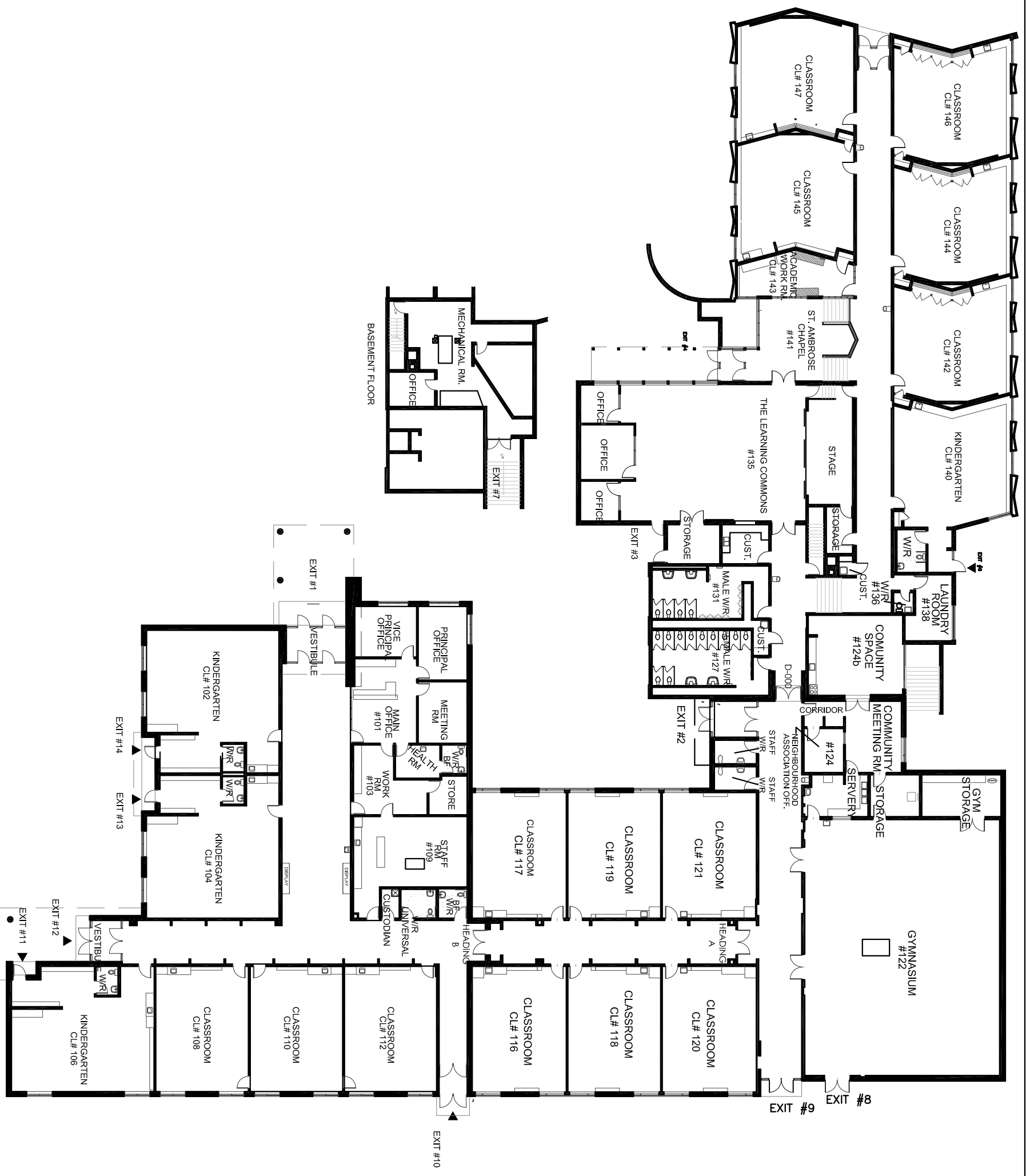
- .1 Remove deposits which affect appearance.
- .2 Remove protective materials.
- .3 Clean surfaces by washing with clear water; or with water and soap or detergent; followed by a clear water rinse.
- .4 Clean and restore stained metal surfaces in accordance with manufacturer's recommendations. Replace if cleaning is impossible.
- .5 Final cleaning is specified in Section 01711.

**.6 Extra Stock**

- .1 At the completion of the work, provide ten (10) new, clean packaged ceramic floor tiles of each colour to be turned over to the owner.
- .2 At the completion of the work, provide an equivalent to 30 sq.ft. of wall coverage, clean packaged ceramic wall tiles of each colour to be turned over to the owner.

**End of Section**





DATE  
2026-03-12

DESCRIPTION  
ADDENDUM #1

No. 1

**ST ANNE CAMBRIDGE CES RENOVATION**  
127 ELGIN ST, NORTH, CAMBRIDGE, ON

DRAWING TITLE:  
**REFERENCE PLAN FOR HARDWARE SCHEDULE**

CHECKED:  
DRAWN:  
PROJECT No. 2527

SCALE: AS NOTED

**ASK-001**

## ADDENDUM NO. 1

---

**Attention:** Sonia Diaz

**Address:** 1721 Architects  
1065 VALETTA Street Suite A  
London ON. N6H 2Z9

**Date:** March 11, 2026

**Project #:** CE-6380

**Project:** St. Anne Cambridge

**Cc.** ---

Please amend the drawings and specifications for the above noted project as described below. Identify this addendum on the tender form to insure a complete tender form.

---

### 1. MECHANICAL

#### 1.1. Drawing M1 Gas Fired Makeup Air Unit Schedule

- 1.1.1. Consider Daikin an acceptable alternate. Ensure product is equivalent in form, fit, function and quality to specified units. Include model of the substitute product and statement that the substitute product is fully interchangeable with item specified. Weight of unit must be less than or equal to existing unit weight.

### 2. ELECTRICAL

#### 2.1. Reissued Drawing E2:

- 2.1.1. Revise lighting fixture schedule, type AA, AB, BA, BC and BD.
- 2.1.2. Change fixture type in CL# 140 washroom.
- 2.1.3. Provide dimmer switches in Library Office.
- 2.1.4. Provide built in occupancy sensors in fixture type BC.

#### 2.2. Reissued Drawing E5:

- 2.2.1. Revise electrical specification as indicated on the drawings.

### 3. ATTACHMENTS

#### 3.1. Reissued drawings E2 and E5 [2 pages]

---

*END OF ADDENDUM No. 1*

---

#### WE MAKE BUILDINGS WORK

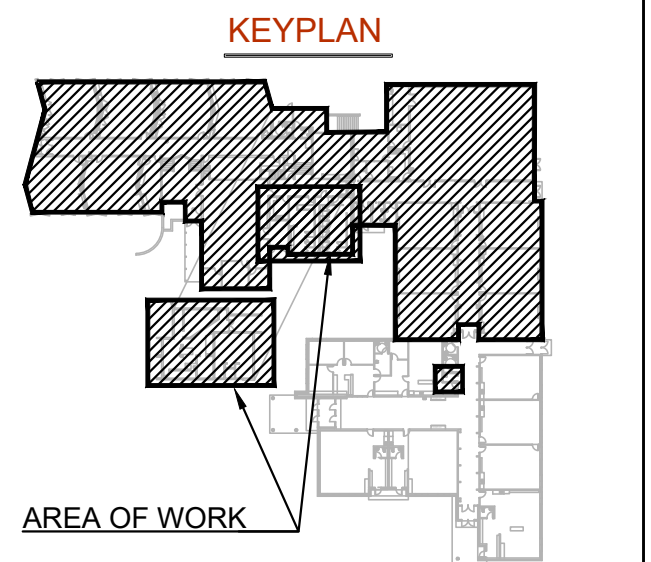
LONDON  
9-1385 NORTH ROUTLEDGE PARK  
LONDON, ON N6H 5N5  
T 519 472 7640

E [info@callidus.ca](mailto:info@callidus.ca)

KINGSTON  
4 CATARAQUI STREET., SUITE 100  
KINGSTON, ON. K7K 1Z7  
T 613 900 0845

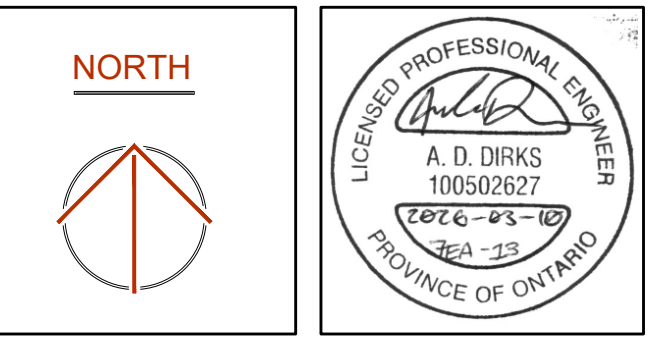
W [www.callidus.ca](http://www.callidus.ca)

KITCHENER  
210-137 GLASGOW STREET  
KITCHENER, ON. N2G 4X8  
T 519 340-1885



**REVISIONS**

NO.	ISSUED FOR	DATE
00	50% PROGRESS SUBMISSION	26.01.21
01	90% PROGRESS SUBMISSION	26.02.04
02	TENDER SUBMISSION	26.03.03
03	ADDENDUM 1	26.03.11



DESIGN	ADM	DRAWN	ADM
CHECKED	AD	REVIEWED	AD

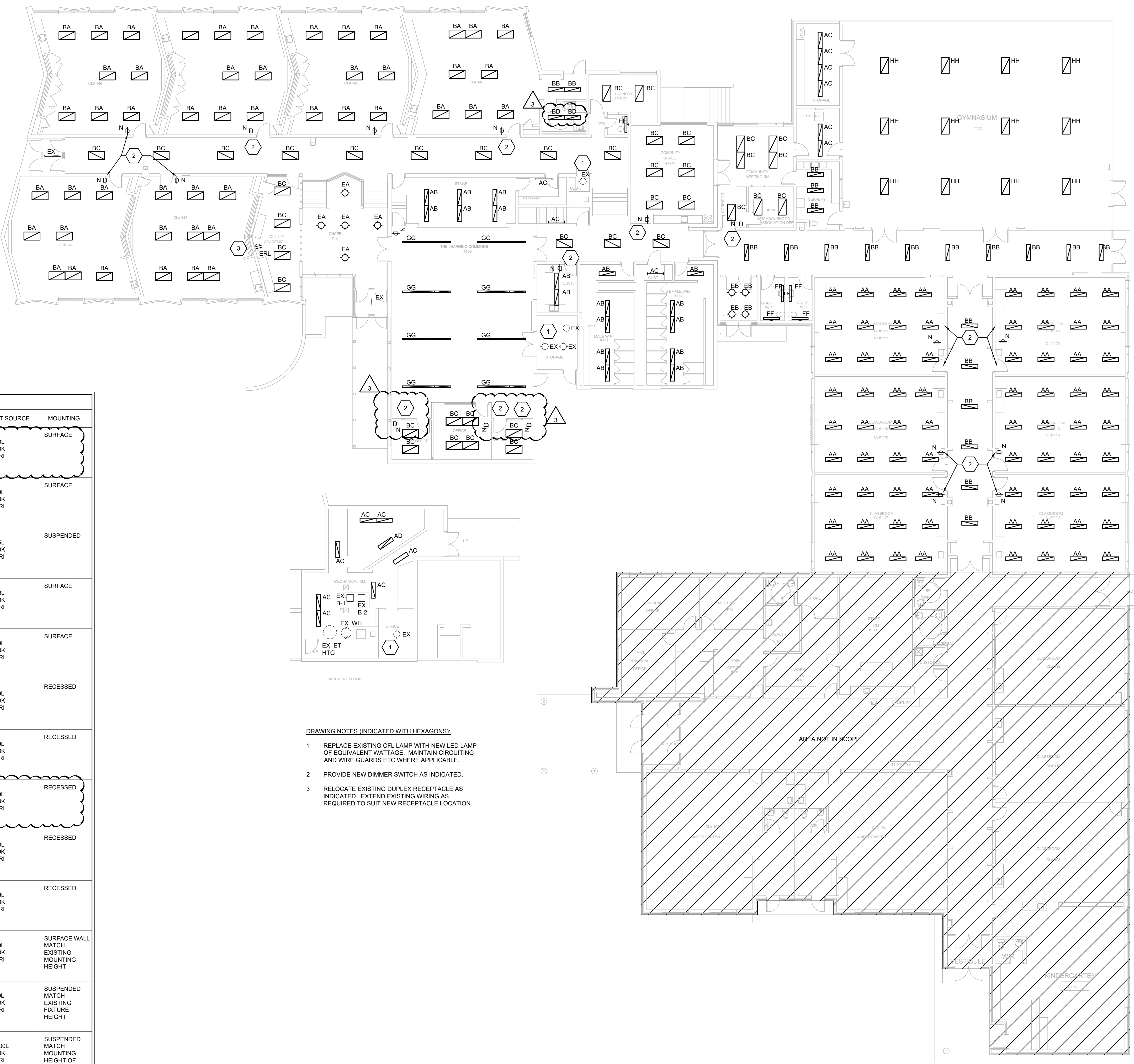
**PROJECT**  
ST. ANNE CAMBRIDGE

**ADDRESS**  
127 ELGIN ST. NORTH,  
CAMBRIDGE, ON

**PROJECT NO.**  
CE-6380

**DRAWING TITLE**  
FLOOR PLAN - PROPOSED  
LIGHTING LAYOUT SCHEDULES  
AND NOTES

**DRAWING NUMBER**  
E2 OF 5



LIGHTING FIXTURE SCHEDULE				
FIXTURE TAG	DESCRIPTION AND MODEL SERIES	INPUT	LIGHT SOURCE	MOUNTING
AA	1X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 4000/5000/6000 80 CRI, SELECTABLE COLOUR TEMPERATURE, 0-10V DIMMING, SURFACE MOUNT KIT LITHONIA: CPX 1X4 AL08 80CRI SSW7 SWL MVOLT NLTAIR APDT	120V 35W	LED 4000L 4000K 80CRI	SURFACE
AB	1X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 2500/3200/4000 80 CRI, SELECTABLE COLOUR TEMPERATURE, 0-10V DIMMING, SURFACE MOUNT KIT LITHONIA: CPX 1X4 AL07 80CRI SSW7 SWL MVOLT NLTAIR2	120V 35W	LED 3200L 4000K 80CRI	SURFACE
AC	4' LED INDUSTRIAL LED FIXTURE C/W 4000 LUMEN OUTPUT 80 CRI, 4000K, SMOOTH ACRYLIC FROSTED CONTOURED DIFFUSE LENS DAY-BRITE: FSI 4 40L 840 UNV	120V 30W	LED 4086L 4000K 80CRI	SUSPENDED
AD	4' LED INDUSTRIAL LED FIXTURE C/W 4000 LUMEN OUTPUT 80 CRI, 4000K, SMOOTH ACRYLIC FROSTED CONTOURED DIFFUSE LENS DAY-BRITE: FSI 4 40L 835 UNV	120V 30W	LED 4086L 4000K 80CRI	SURFACE
BA	2X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 4000/5000/6000 80 CRI, SELECTABLE COLOUR TEMPERATURE, 0-10V DIMMING, SURFACE MOUNT KIT LITHONIA: CPX 2X4 AL08 80CRI SSW7 SWL MVOLT NLTAIR2	120V 35W	LED 5000L 4000K 80CRI	SURFACE
BB	1X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 2500/3200/4000 80 CRI, SELECTABLE COLOUR TEMPERATURE, 0-10V DIMMING, SURFACE MOUNT KIT LITHONIA: CPX 1X4 AL07 80CRI SSW7 SWL MVOLT NLTAIR2	120V 25W	LED 3200L 4000K 80CRI	RECESSED
BC	2X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 2500/3200/4000 80 CRI, SELECTABLE COLOUR TEMPERATURE, OCC SENSOR LITHONIA: CPX 2X4 AL07 80CRI SSW7 SWL MVOLT NLTAIR2 APDT	120V 35W	LED 3200L 4000K 80CRI	RECESSED
BD	1X4 BACK LIT LED FIXTURE C/W SMOOTH ACRYLIC LENS, SELECTABLE LUMEN OUTPUT 2500/3200/4000 80 CRI, SELECTABLE COLOUR TEMPERATURE, 0-10V DIMMING, SURFACE MOUNT KIT LITHONIA: CPX 1X4 AL07 80CRI SSW7 ASWM MVOLT NLTAIR2	120V 25W	LED 3200L 4000K 80CRI	RECESSED
EA	6 INCH LED DOWNLIGHT C/W 4800 LUMEN OUTPUT, 90CRI, 4000K WIDE DISTRIBUTION 0-10V DIMMING WHITE TRIM FIMISH LIGHTOLIER: 6R R 48 940 W Z10U C6L R DL WH	120V 35W	LED 4800L 3500K 90CRI	RECESSED
EB	6 INCH LED DOWNLIGHT C/W 2000 LUMEN OUTPUT, 90CRI, 4000K WIDE DISTRIBUTION 0-10V DIMMING WHITE TRIM FIMISH LIGHTOLIER: 6R R 20 940 W Z10U C6L R DL WH	120V 15W	LED 2000L 4000K 90CRI	RECESSED
FF	4' WALL MOUNTED LED DIRECT/INDIRECT FIXTURE C/W 3000 LUMEN OUTPUT 80CRI 4000K CURVED LINEAR FACETED REFRACTOR LENS, PIR OCCUPANCY SENSOR, WHITE FINISH. LITHONIA: WL4 30L MVOLT EZ1 LP840 NLTAIR2 NES7	120V 28W	LED 3000L 4000K 80CRI	SURFACE WALL MATCH EXISTING MOUNTING HEIGHT
GG	SUSPENDED LED FIXTURE C/W 7500 LUMEN OUTPUT 90 CRI, 4000K 0-10V DIMMING ACRYLIC DIFFUSER, 75% DOWNLIGHT LEDALITE: 24 G5 L A A G 12 E D T N NN A1 24	120V 33W	LED 7500L 4000K 90CRI	SUSPENDED MATCH EXISTING FIXTURE HEIGHT
HH	2X4 LED SUSPENDED HIGHBAY FIXTURE C/W 18,000 LUMEN OUTPUT, 80 CRI, 4000K, WIDE ISTRIBUTION. DAY-BRITE: FBZ 18L 840 UNV W S	120V 101W	LED 17,000L 4000K 80CRI	SUSPENDED MATCH MOUNTING HEIGHT OF EXISTING FIXTURES.

**NOTES:**

- PROVIDE ALL NECESSARY MOUNTING HARDWARE FOR A COMPLETE INSTALLATION.
- COORDINATE WITH ARCHITECTURAL CEILING PLAN TO CONFIRM CEILING MATERIAL AND MOUNTING TYPE.
- FIXTURES TO BE SET TO 4000K AND MEDIUM LUMEN OUTPUT SELECTION.

- DRAWING NOTES (INDICATED WITH HEXAGONS):**
- REPLACE EXISTING CFL LAMP WITH NEW LED LAMP OF EQUIVALENT WATTAGE. MAINTAIN CIRCUITING AND WIRE GUARDS ETC WHERE APPLICABLE.
  - PROVIDE NEW DIMMER SWITCH AS INDICATED.
  - RELOCATE EXISTING DUPLEX RECEPTACLE AS INDICATED. EXTEND EXISTING WIRING AS REQUIRED TO SUIT NEW RECEPTACLE LOCATION.

**FLOOR PLAN - PROPOSED LIGHTING LAYOUT**  
SCALE: 1:150

ELECTRICAL GENERAL REQUIREMENTS

GENERAL CONDITIONS:

- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO ELECTRICAL SAFETY CODE... 2. BEFORE TENDERING, EXAMINE THE SITE AND ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES... 3. ALL ELECTRICAL WORK SHALL COMPLY WITH CSA ELECTRICAL BULLETINS APPLICABLE AT TENDER CLOSURE... 4. PROVIDE ALL GROUNDING AND BONDING TO GROUND REQUIRED, REGARDLESS IF NOT SHOWN ON THE DRAWINGS... 5. PROVIDE ALL NEW MATERIALS HAVING CSA, CUL, WARNOCK HERSEY OR OTHER APPROVAL AGENCY LABEL AND LISTING... 6. ARRANGE AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED FOR THE WORK OF THIS TRADE... 7. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS TRADE... 8. PROVIDE ALL SLEEVES, INSERTS AND HANGERS REQUIRED FOR THE ELECTRICAL WORK... 9. PROVIDE ACCESS PANELS AS FOLLOWS: SHEET STEEL CONSTRUCTION WITH FACTORY APPLIED PRIME COAT OF PAINT... 10. TOUCH-UP ALL SHOP PAINTED EQUIPMENT DAMAGED IN TRANSIT OR DURING INSTALLATION TO MATCH ORIGINAL SHOP FINISH... 11. AVOID ACCUMULATION OF DEBRIS AS THE WORK PROGRESSES... 12. CO-ORDINATE THE WORK OF THIS TRADE WITH ALL OTHER TRADES ON THE JOB... 13. IN AREAS WHERE SPACE IS LIMITED AND MULTIPLE TRADES ARE INSTALLING SERVICES... 14. PRIOR TO THE FINAL INSPECTION, CLEAN ALL ELECTRICAL EQUIPMENT... 15. UPON COMPLETION OF THE WORK, PROVIDE THE FINAL UNCONDITIONAL CERTIFICATE OF ACCEPTANCE... 16. PROVIDE A ONE YEAR GUARANTEE ON ALL MATERIALS, AND LABOUR FROM THE DATE OF ACCEPTANCE... 17. ON MULTI-PHASE FEEDERS AND PANELS, ADJUST THE PHASE LOADING SO AS NOT TO EXCEED A PHASE IMBALANCE OF 10%... 18. SUBMIT SHOP DRAWINGS IN ELECTRONIC PDF FORMAT FOR THE FOLLOWING EQUIPMENT... 19. ALL ELECTRICAL EQUIPMENT SHALL BE MOUNTED PLUMBED TRUE... 20. DEVICE BOXES SHOWN BACK TO BACK SHALL BE OFFSET A MINIMUM OF 305MM (12") TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS... 21. AS-BUILT DRAWINGS: 21.1. MAINTAIN AN ACCURATE RECORD OF DEVIATIONS AND CHANGES FROM CONTRACT DRAWINGS... 21.2. FORMAT FILES TO MATCH EXACTLY THE LAYERING SYSTEM AND SYMBOLOGY OF THE CONSULTANT... 21.3. THE AS-BUILT DRAWINGS SHALL HAVE A VALUE OF \$5,000 UNLESS THE ELECTRICAL CONTRACT VALUE IS LESS THAN \$100,000... 21.4. THIS PROJECT UTILIZED THE FOLLOWING DIGITAL FORMAT(S): AUTOCAD/PDF... 22. OPERATION AND MAINTENANCE INSTRUCTION MANUALS: 22.1. PROVIDE PDF COPIES OF COMPLETE OPERATION AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT... 22.2. MANUALS SHALL INCLUDE THE FOLLOWING INFORMATION: 22.2.1. CONTACT INFORMATION OF CONSULTANTS AND CONTRACTORS... 22.2.2. COMPLETE SET OF FINAL PROJECT SHOP DRAWINGS... 22.2.3. ESA LETTER OF COMPLIANCE... 22.2.4. CERTIFICATE OF SUBSTANTIAL COMPLETION... 22.2.5. FIRE ALARM VERIFICATION REPORT... 22.2.6. MANUFACTURER'S INSTALLATION INSTRUCTIONS... 22.2.7. MANUFACTURER'S MAINTENANCE INSTRUCTIONS... 22.2.8. MANUFACTURER'S WARRANTIES AND GUARANTEES AND COPIES OF ALL TEST DATA AND VERIFICATION CERTIFICATES... 23. WHERE THE WORD PROVIDE IS USED IN THESE SPECIFICATIONS OR ON THE DRAWINGS, IT HAS THE MEANING 'PROVIDE AND INSTALL COMPLETE WITH ALL ASSOCIATED MOUNTING HARDWARE AND CONNECTIONS'... 24. CHANGES IN THE WORK 24.1. CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT...

- HOURLY RATE (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT)
• TOTAL OVERHEAD AND PROFIT (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT)

ELECTRICAL PROJECT COMPLIANCE

- 26.1. PROVIDE THE FOLLOWING DOCUMENTS TO THE CONSULTANT TO ISSUE THE LETTER OF GENERAL REVIEW: 26.1.1. ESA INSPECTION REPORT 26.1.2. FIRE ALARM SYSTEM VERIFICATION REPORT 26.1.3. A SIGNED VERIFICATION LETTER FROM THE ELECTRICAL CONTRACTOR CONFIRMING THE FOLLOWING: LIGHTING AND LIGHTING CONTROLS OPERATIONAL SMOKE ALARM AND CO DETECTORS HAVE BEEN VERIFIED OPERATIONAL.

CONDUCTORS & RACEWAYS:

- USE RW90 COPPER CONDUCTORS CSA APPROVED FOR THE APPLICATION. CONDUCTORS IN UNDERGROUND RACEWAYS TO BE RWU90. SIZE THE CONDUCTORS SO THAT THE MAXIMUM BRANCH CIRCUIT VOLTAGE DROP DOES NOT EXCEED 3%. MINIMUM CONDUCTOR SIZE IS #12 AWG UNLESS OTHERWISE INDICATED. 27. DESIGN IS BASED ON COPPER CONDUCTORS. ALUMINUM CONDUCTORS ARE NOT PERMITTED ON THIS PROJECT. 28. ALL CONDUCTORS ARE TO BE INSTALLED IN RACEWAYS AS DESCRIBED BELOW: 28.1. PVC CONDUIT: IN CONCRETE SLAB, UNDERGROUND BURIED, BELOW SLAB ON GRADE OR EXTERIOR EXPOSED SURFACE RACEWAYS. 28.2. EMT RACEWAYS: INTERIOR SURFACE RACEWAYS, BRANCH CIRCUIT WIRING FROM PANELS, CONCEALED IN ACCESSIBLE CEILINGS AND INTERIOR WALLS OR IN INTERIOR CONCRETE BLOCK CONSTRUCTION. 28.3. ARMoured CABLE (BX): FOR FINAL DROPS TO FIXTURES IN CEILING SPACES. (LENGTH NOT TO EXCEED 3M IN THIS APPLICATION) AND FOR EXISTING BLOCK WALLS. 28.4. SURFACE METAL RACEWAYS (SMR): FOR EXISTING CONSTRUCTION WHERE EXISTING WALLS AND FINISHES ARE TO REMAIN OR NEW SERVICES CANNOT BE FISHED IN EXISTING WALL. 28.5. OBTAIN PERMISSION FROM THE CONSULTANT PRIOR TO INSTALLATION. COLOUR AND SIZE OF RACEWAYS TO BE CONFIRMED WITH CONSULTANT FOR THE SPECIFIC APPLICATION. 29. MINIMUM RACEWAY SIZE FOR EXTERIOR U/G BURIED APPLICATION IS 3/4" (19MM), MINIMUM BURIED DEPTH IS 36" (900MM) BELOW FINISHED GRADE. 30. ALL CONDUIT AND WIRING IS TO BE CONCEALED IN ALL FINISHED AREAS.

DEVICES:

SWITCHES:

- 30.1. SPEC GRADE, RATED 20 AMP, 125 VAC, SINGLE POLE, SINGLE THROW. (3-WAY OR 4-WAY AS NOTED ON DRAWINGS.) 30.2. SPEC GRADE, RATED 15 AMP, 347 VAC, SINGLE POLE, SINGLE THROW. (3-WAY OR 4-WAY AS NOTED ON DRAWINGS.) 30.3. SPEC GRADE, RATED 20 AMP, 347 VAC, SINGLE POLE, SINGLE THROW. (3-WAY OR 4-WAY AS NOTED ON DRAWINGS.) 30.4. MANUFACTURERS: HARVEY HUBBEL, LEVITON, LEGRAND, LUTRON

31. LIGHTING CONTROL:

- 31.1. REFER TO FLOOR PLANS AND LIGHTING CONTROL LEGEND. 31.2. PROVIDE NEW LIGHTING CONTROL EQUIPMENT AND DEVICES INDICATED FROM MANUFACTURER INDICATED C/W MINIMUM 5 YEAR MANUFACTURERS GUARANTEE TO REPAIR OR REPLACE DEFECTIVE EQUIPMENT OR DEVICES WITHIN 5 YEARS OF SUBSTANTIAL PERFORMANCE OF THE CONTRACT. 31.3. ALTERNATE MANUFACTURERS OF EQUIVALENT LIGHTING CONTROL SYSTEMS WILL BE CONSIDERED FOR ACCEPTANCE PRIOR TO BID CLOSE ONLY WHEN LITERATURE DESCRIBING PROPOSED MANUFACTURERS EQUIPMENT AND OPERATION IS SUBMITTED FOR REVIEW MINIMUM SEVEN (7) WORK DAYS PRIOR TO BID CLOSE. 31.4. SUBMIT SHOP DRAWINGS FOR LIGHTING CONTROL EQUIPMENT TO CONSULTANT FOR REVIEW PRIOR TO ORDERING OF EQUIPMENT. 31.5. SUPPLY AND INSTALL LIGHTING CONTROL EQUIPMENT AND WIRING AS RECOMMENDED BY MANUFACTURER TO COMPLY WITH LIGHTING CONTROL REQUIREMENTS INDICATED. LOW VOLTAGE CONTROL WIRING NOT INSTALLED IN CONDUIT OR INCORPORATED INTO ARMoured CABLE MUST BE FT4 RATED IN NON-COMBUSTIBLE BUILDINGS AND FT6 RATED WHEN RUN THROUGH AIR HANDLING PLENUMS. 31.6. PROVIDE PROGRAMMING, SET-UP, DEMONSTRATION, AND TRAINING BY MANUFACTURER TRAINED TECHNICIAN.

32. FUNCTIONAL TESTING:

- 32.1. SET UP AND TEST LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS TO CONFIRM HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION ACCORDING WITH THE CONTRACT DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

33. RECEPTACLES:

- 33.1. SPEC GRADE, DUPLEX, RATED 20 AMP, 125 VAC, T-SLOT EEMAC 5-20R CONFIGURATION, U-GROUND. 33.2. GROUND FAULT INTERRUPTING, CLASS A DUPLEX, RATED 20 AMP, 125 VAC, T-SLOT EEMAC 5-20R FIG. TRIP RATED FOR 4-6 MA LEAKAGE CURRENT, C/W PUSH TO TEST AND RESET BUTTONS. 33.3. EXTERIOR GROUND FAULT INTERRUPTING, CLASS A DUPLEX, RATED 15 AMP, 125 VAC, EEMAC 5-15R FIG. TRIP RATED FOR 4-6 MA LEAKAGE CURRENT, C/W PUSH TO TEST AND RESET BUTTONS, NEMA 3R WEATHERPROOF C/W WHILE IN USE COVER PLATE, HUBBELL, RW57300 OR APPROVED EQUAL.

34. COVER PLATES:

- 34.1. BRUSHED STAINLESS STEEL IN ALL FINISHED AREAS. 34.2. GALVANIZED STEEL COVERPLATES, FOR SURFACE MOUNTED DEVICES IN UNFINISHED AREAS. 34.3. COVERPLATES TO BE OF THE SAME MANUFACTURER AS THE DEVICES. PROVIDE A TYPED LABEL ON EACH DEVICE PLATE INDICATING THE PANEL BOARD NAME AND CIRCUIT NUMBER THE DEVICE IS FED FROM. 34.4. FOR OUTDOOR APPLICATIONS, PROVIDE WEATHER PROOF WHILE IN USE COVERPLATES. COVERPLATE TO BE CLEAR LEXAN WITH SEALED-IN-PLACE GASKET.

COLOUR OF DEVICES: WHITE

- 35. STARTERS: FULL VOLTAGE, MAGNETIC STARTERS WITH COIL VOLTAGE AS REQUIRED BY THE PIECE OF EQUIPMENT BEING CONTROLLED. STARTERS TO BE COMPLETE WITH OVERLOAD RELAYS PROPERLY SIZED FOR THE MOTOR FULL LOAD AMPERES. PROVIDE CONTROL TRANSFORMERS WHERE REQUIRED FOR PROPER SEQUENCE OF OPERATION. ON PIECES OF EQUIPMENT WITH AUTOMATIC CONTROLS PROVIDE A HAND-OFF-AUTO SWITCH, PILOT LIGHT AND LOCAL DISCONNECT SWITCH. PROVIDE ALL NO AND N/C CONTACTS FOR CONTROL AS INDICATED.

- 35.1. MANUFACTURERS: ALLEN BRADLEY, SQUARE D, FURNAS, KLOCKNER-MOELLER

HEAVY DUTY EQUIPMENT ISOLATING DISCONNECTS: SIZE DISCONNECTING DEVICES FOR THE CURRENT CARRYING CAPACITIES OF THE EQUIPMENT TO BE ISOLATED. PROVIDE NUMBER OF ISOLATING POLES AS REQUIRED BY EQUIPMENT TO BE ISOLATED. TYPE OF ENCLOSURE AS INDICATED BELOW:

- 35.1. DUST FREE OR STANDARD - EEMAC TYPE 1. 35.2. OUTDOOR OR DAMP LOCATION - EEMAC TYPE 3R. 35.3. FOR DIRECT EXPOSURE TO WATER UNDER PRESSURE: EEMAC TYPE 4. 35.4. FOR HIGH DUST CONCENTRATION OF NON-IGNITABLE DUST: EEMAC TYPE 12.

- 35.5. MANUFACTURERS: CUTLER HAMMER - EATON, SCHNEIDER CANADA, SIEMENS

- 36. ALL DEVICES OF THE SAME TYPE, SIZE AND RATING ARE TO BE OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT.

37. LIGHTING:

- 38. PROVIDE FIXTURES COMPLETE WITH ALL ACCESSORIES MOUNTING HARDWARE, AND LAMPS AS SPECIFIED IN THE FIXTURE SCHEDULE OR AS APPROVED BY OWNERS AS AN EQUAL FIXTURE COMPLETE WITH MIN. 5 YEAR WARRANTY. 39. PRODUCTS OF EQUAL QUALITY BY ALTERNATE MANUFACTURERS SUCH AS SIGNIFY, COOPER, HUBBELL, AND CREE ARE ALSO ACCEPTABLE. PROVIDE PHOTOMETRIC CALCULATIONS ALONG WITH ALTERNATE FIXTURE SELECTIONS TO THE ENGINEER FOR REVIEW AT LEAST TWO FULL BUSINESS DAYS PRIOR TO TENDER CLOSING.

- 40. LUMINAIRES TO BE SUPPORTED FROM THE STRUCTURE THROUGH THE USE OF APPROVED CHAINS TO MEET THE REQUIREMENTS OF THE OBC. SUPPORT FROM MECHANICAL OR ELECTRICAL SERVICES IS NOT PERMITTED.

FIRE ALARM SYSTEM - SINGLE STAGE ADDRESSABLE NON-VOICE:

- 41. EXISTING FIRE ALARM SYSTEM IS BY MIRCOM. PROVIDE ADDITIONS AND/OR MODIFICATIONS TO EXISTING FIRE ALARM SYSTEM AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. 42. CONSULT WITH MANUFACTURER PRIOR TO SUBMISSION OF BIDS AND INCLUDE ALL THE COMPONENTS, WIRING, PROGRAMMING AND TESTING REQUIRED FOR THE ADDITIONS AND/OR MODIFICATIONS INDICATED AND TO COMPLY WITH RELEVANT CODES AND REGULATIONS. 42.1. MAINTAIN OR MODIFY EXISTING SEQUENCE OF OPERATION AS INDICATED FOR A FULLY OPERATIONAL SYSTEM. 42.2. ALL NEW DEVICES AND COMPONENTS CONNECTED TO EXISTING SYSTEM SHALL BE ULC LISTED AND COMPATIBLE WITH THE EXISTING SYSTEM. 43. ADD AND/OR MODIFY ANNUNCIATION AS INDICATED. 44. UPGRADE OR ADD POWER SUPPLIES AND EMERGENCY BATTERY CAPACITY AS NECESSARY TO ACCOMMODATE ADDITIONS AND MODIFICATIONS WITH MINIMUM 25% SPARE CAPACITY. 45. DUCT TYPE SMOKE DETECTOR WITH ADDRESSABLE PHOTO-ELECTRIC HEAD MOUNTED IN SEALED DUCT MOUNTED HOUSING WITH TRANSPARENT COVER AND AIR INLET SAMPLING TUBE INSERTED INTO DUCT ACROSS WIDTH WITH SEPARATE RELIEF AIR TUBE INTO DUCT. INTEGRAL RELAY WHERE REQUIRED TO SHUT DOWN ASSOCIATED AIR HANDLING UNIT. 46. REMOTE ASPIRATION SMOKE DETECTOR WITH ADDRESSABLE PHOTOELECTRIC HEAD AND AIR SAMPLING FAN MOUNTED IN SEALED DUCT MOUNTED HOUSING WITH TRANSPARENT COVER AND AIR INLET SAMPLING TUBE MOUNTED IN AREA OF DETECTION WITH REMOTE TEST INLET OUTSIDE OF TEST AREA AS INDICATED ON PLANS. 47. ADDRESSABLE MODULES: 47.1. MONITOR MODULES OF SINGLE, DUAL OR MULTI-ZONE TYPE FOR CONNECTION AND SUPERVISION OF ALARM AND SUPERVISORY DEVICES AS INDICATED ON PLANS. 47.1. CONTROL MODULES WITH BUILT IN RELAY FOR CONTROL AND SIGNALLING OF DEVICES AND EQUIPMENT AS INDICATED ON PLANS, FIRE ALARM SCHEDULE, RISER AND NOTES. 47.2. ISOLATION MODULES TO OPEN CIRCUIT IF FAULT DETECTED.

- 48. CONVENTIONAL FIRE DETECTORS: (USE WHERE INDICATED DUE TO ENVIRONMENTAL CONDITIONS) 48.1. MOISTURE RESISTANT [EXPLOSION PROOF] HEAT DETECTOR: TO ULC S530 STANDARD FOR HEAT ACTUATED FIRE DETECTORS FOR FIRE ALARM SYSTEMS. (DESCRIBE REQUIRED FEATURES). MONITORED THROUGH CLASS A [B] WIRING TO REMOTE ADDRESSABLE MONITOR MODULE WHERE INDICATED.

ACCEPTABLE MANUFACTURERS INCLUDE: MIRCOM.

- 49. FIRE ALARM WIRING INSTALLED IN CONDUIT TO SATISFY MANUFACTURERS REQUIREMENT AND ELECTRICAL SAFETY CODE. IN HIGH RISE BUILDINGS WIRING TO BE FIRE RESISTANT OR FIRE PROTECTED IN FIRE RATED ENCLOSURE AS INDICATED ON DRAWINGS AND AS FOLLOWS. WIRING PASSING THROUGH A FLOOR OR FIRE RATED SHAFR THAT SERVES FIRE OR SUPERVISORY ALARM INITIATION OR ALARM NOTIFICATION DEVICES SHALL BE MINIMUM 1 HOUR FIRE PROTECTED OR RESISTANT FROM FIRE RATED ROOM HOUSING SOURCE PANEL TO FLOOR AREA CONTAINING DEVICES SERVED. WIRING USED TO CONTROL THE OPERATION OF PRESSURIZATION, SMOKE CONTROL OR SMOKE VENTING FANS SHALL BE 2 HOUR FIRE PROTECTED OR RESISTANT FROM FIRE RATED ROOM HOUSING SOURCE PANEL TO POINT OF CONTROL OF EQUIPMENT INDICATED.

- 50. FIRE ALARM INSTALLATION TO ULC STANDARD S524 AND MANUFACTURERS INSTRUCTIONS.

- 50.1. AS-BUILT DRAWINGS TO INCLUDE ALL FINAL DEVICE LOCATIONS AND ADDRESS NUMBER ON PLANS, ACCURATE ZONE BOUNDARIES ON PLANS AND RISER DIAGRAM UPDATES TO REFLECT FINAL CONNECTION ARRANGEMENTS COVERING EACH ALARM AND SUPERVISORY ZONE, SIGNAL CIRCUIT AND CONTROLLED EQUIPMENT OR DEVICE.

- 51. FIRE ALARM VERIFICATION TO ULC STANDARD S537 FOR SCOPE SHOWN ON DRAWINGS.

- 52. PROVIDE REPORT OF VERIFICATION OF FIRE ALARM SYSTEM TO ENGINEER ON COMPLETION OF WORK. PROVIDE CERTIFICATION OF INSTALLATION TO CANULC - S524.

WIRING FOR OTHER TRADES:

- 1. PROVIDE POWER WIRING FOR ELECTRICALLY OPERATED EQUIPMENT OF OTHER TRADES AS NOTED ON THE DRAWINGS OR DEFINED IN THIS SPECIFICATION. PROVIDE ALL STARTERS AND DISCONNECT SWITCHES FOR A COMPLETE AND OPERATING SYSTEM. 2. PROVIDE POWER AND WIRING TO THE ELECTRICALLY OPERATED EQUIPMENT AS DETAILED IN WIRING FOR MECHANICAL EQUIPMENT SCHEDULE. THIS LIST DOES NOT DETAIL THE SCOPE OF WORK FOR EACH PIECE OF EQUIPMENT. CO-ORDINATE WITH MECHANICAL CONTRACTOR FOR THE EXACT POWER REQUIREMENTS OF THE EQUIPMENT TO BE SUPPLIED TO THE PROJECT. DO NOT PROCEED WITH THE INSTALLATION OF ANY OF THE ELECTRICAL ROUGH-IN UNTIL THE POWER SUPPLY REQUIREMENTS AND THE POINTS OF CONNECTION HAVE BEEN ESTABLISHED FROM THE SHOP DRAWINGS FOR THE EQUIPMENT OF MECHANICAL CONTRACTOR. 3. PROVIDE POWER WIRING TO ALL CONTROL DEVICES SUPPLIED BY MECHANICAL CONTRACTOR AND OPERATING AT 100 VAC OR GREATER. 4. PROVIDE CONTROL WIRING FOR ALL CONTROL DEVICES WITH OPERATING VOLTAGES OF THE CONTROLS GREATER THAN 100VAC. 5. PROVIDE RACEWAYS/CONDUITS FOR ALL CONTROL WIRING AS IDENTIFIED ON THE DRAWINGS FOR USE BY MECHANICAL CONTRACTOR. PROVIDE OUTLET BOXES AS DIRECTED BY MECHANICAL CONTRACTOR FOR ALL TERMINAL POINTS IN THE CONTROL SYSTEM. CO-ORDINATE WITH MECHANICAL CONTRACTOR.

RENOVATIONS ON EXISTING BUILDING:

- 1. RENOVATIONS SHALL BE MADE ON THE EXISTING BUILDING AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. REMOVE ALL EXISTING LUMINAIRES, OUTLET BOXES, SWITCHES, RECEPTACLES, ETC. AS INDICATED ON DRAWINGS. ALL EQUIPMENT REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS SPECIFICALLY NOTED OTHERWISE. ALL EQUIPMENT INSTALLED IN RENOVATED AREAS SHALL BE NEW. ELECTRICAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL INSTALLATION. ALL CONDUIT SHALL BE INSTALLED CONCEALED IN FINISHED AREAS UNLESS SPECIFICALLY NOTED OTHERWISE. 2. NEW CONDUCTORS SHALL BE INSTALLED TO THE NEAREST OUTLET AS REQUIRED FOR EQUIPMENT THAT IS RELOCATED. INSTALLATION OF JUNCTION BOXES FOR SPLICING PURPOSES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY CALLED FOR. 3. PROVIDE ALL CONDUCTORS REQUIRED TO RECONNECT EXISTING CIRCUITS WHERE REQUIRED THAT MAY BE DISRUPTED DUE TO RENOVATIONS ON THE EXISTING FLOOR/ROOF. 4. PROVIDE NEW BREAKERS WHERE REQUIRED IN EXISTING PANELS TO PICK-UP ADDITIONAL CIRCUITS INDICATED ON THE DRAWINGS. 5. ALL EXISTING LUMINAIRES THAT ARE RELOCATED SHALL BE REMOVED, CHECKED, SERVICED,

CLEANED, AND RE-LAMPED PRIOR TO RE-INSTALLATION. ALL UNITS NOT REUSED SHALL BE TURNED OVER TO THE OWNER, COMPLETE WITH LAMPS.

- 6. COORDINATE WITH MECHANICAL DRAWINGS AND SAFELY DISCONNECT AND REMOVE ALL MOTOR/MECHANICAL EQUIPMENT BEING DEMOLISHED. REMOVE UNUSED WIRING/CONNECTION BACK TO SOURCE PANEL. EXTEND WIRING/CONNECTION OF ALL MOTOR/MECHANICAL EQUIPMENT BEING RELOCATED. PROVIDE PROPER JUNCTION BOX AT EACH POINT OF EXTENSION.

FIRESTOPPING AND SMOKE SEAL:

- 1. PROVIDE A ULC LISTED FIRESTOP SYSTEM TO SEAL AROUND ALL PIPING, TUBING, DUCTS, CONDUITS, ELECTRICAL WIRES AND CABLES, AND OTHER SIMILAR ELECTRICAL SERVICES WHICH PENETRATE PART OF A BUILDING ASSEMBLY REQUIRED TO HAVE A FIRE RESISTANCE RATING OR A FIRE SEPARATION. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING ASSEMBLY AND FIRE SEPARATION TYPES AND LOCATIONS. 2. FOR ALL PENETRATIONS THROUGH HORIZONTAL FIRE SEPARATIONS, REQUIRED TO HAVE A FIRE RESISTANCE RATING. USE FIRESTOP SYSTEMS WITH A FT RATING NOT LESS THAN THE FIRE RESISTANCE RATING FOR THE FIRE SEPARATION. THIS INCLUDES THE SEALING OF ANY SLEEVES PROVIDED FOR FUTURE USES. IN ALL OTHER LOCATIONS, USE FIRESTOP SYSTEMS WITH A FT RATING NOT LESS THAN THE FIRE PROTECTION RATING REQUIRED FOR CLOSURES IN THE BUILDING ASSEMBLY, REQUIRED TO HAVE A FIRE RESISTANCE RATING, OR IN THE FIRE SEPARATION. 3. BEFORE STARTING ANY WORK ON SITE, SUBMIT DETAILED SHOP DRAWINGS TO BOTH THE CONSULTANT AND THE LOCAL BUILDING INSPECTION AUTHORITY FOR THEIR REVIEW AND COMMENTS. INCLUDE: 3.1. MANUFACTURER'S TECHNICAL PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH SPECIFIC TYPE AND LOCATION OF PENETRATION. 3.2. CERTIFICATION THAT PROPOSED FIRESTOPPING MATERIALS AND ASSEMBLIES COMPLY WITH CAN4-115-M. 3.3. ULC LISTINGS WITH COPIES OF ULC DATA SHEETS FOR EACH SPECIFIC TYPE AND LOCATION OF PENETRATION. 3.4. MAKE PENETRATION TYPES AND LOCATIONS ON SET OF WHITE PRINTS, AT COMPLETION OF PROJECT, TRANSFER THIS INFORMATION TO "AS-BUILT" DRAWINGS.

Callidus Engineering We Make Buildings Work LONDON: 1385 North Routledge Park, Unit 9 London, ON N6H 5H5 P 519.472.7640 KINGSTON: 4 Cataragui Street, Suite 100, Kingston, ON K7K 1Z7 P 613.900.0845 KITCHENER: 210-137 Glasgow Street, Office #141 Kitchener, ON N2G 4X8 P 519.472.7640 W www.callidus.ca E info@callidus.ca

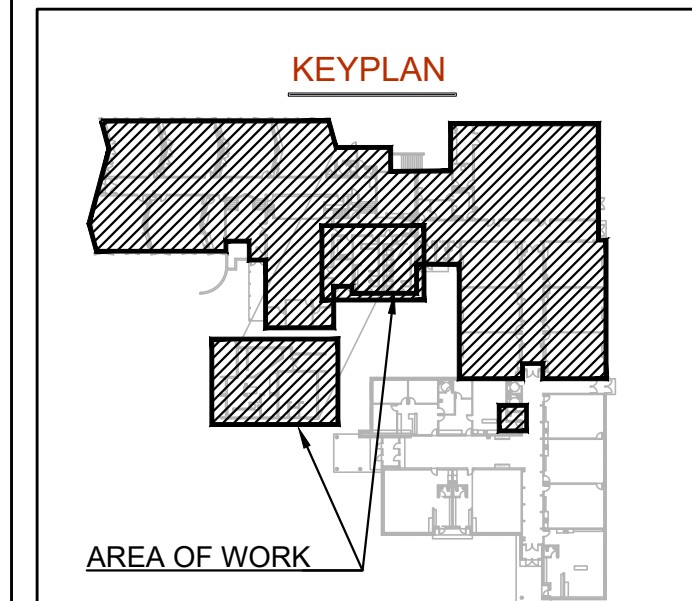


Table with 3 columns: NO., ISSUED FOR, DATE. Rows include 00 (50% PROGRESS SUBMISSION, 26.01.21), 01 (90% PROGRESS SUBMISSION, 26.02.04), 02 (TENDER SUBMISSION, 26.03.03), 03 (ADDENDUM 1, 26.03.11).

Table with 3 columns: NO., ISSUED FOR, DATE. Rows include 00 (50% PROGRESS SUBMISSION, 26.01.21), 01 (90% PROGRESS SUBMISSION, 26.02.04), 02 (TENDER SUBMISSION, 26.03.03), 03 (ADDENDUM 1, 26.03.11).

NORTH arrow and professional engineer seal for A. D. DIRKS, LICENSED PROFESSIONAL ENGINEER, 100502627, 2016-03-15, 2019-03-15, PROVINCE OF ONTARIO.

Table with 4 columns: DESIGN, ADM, DRAWN, ADM. Rows include CHECKED, AD, REVIEWED, AD.

PROJECT ST. ANNE CAMBRIDGE

ADDRESS 127 ELGIN ST. NORTH, CAMBRIDGE, ON

PROJECT NO. CE-6380

DRAWING TITLE ELECTRICAL SPECIFICATIONS

DRAWING NUMBER E5 OF 5