



**Addendum # 1**

**T21-53 Childcare Vestibules at Various DDSB Schools  
Closing Date: Thursday July 15 , 2021 before 11:00 AM**

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The following additions, deletions and / or items of clarification shall be included as an integral part of the Tender Documents and Scope of Work:

Responses to Questions received to date are as follows:

**1.1 Question 1:**

Please provide missing specification section 08500 Aluminum Windows

**1.2 Answer to Question 1:**

Specification Section 08500 Aluminum Windows is bound herein.

End of Addendum #1

**PART 1 GENERAL****1.1 Conditions**

1.1.1 All General Conditions of the Stipulated Price contract incorporated in the Canadian Standard Construction Document CCDC2-2008 and the Supplementary General Conditions included in this Specification shall form part of and govern all Sections of these specifications.

1.1.2 The work associated with this section shall comply with all pertinent sections and articles in Division 1 – General Requirements

**1.2 Alteration Area A**

1.2.1 Provide all labour, materials, plant facilities, engineering and equipment necessary to supply and install all factory assembled and pre-finished thermally broken window framing complete with sealed, insulated glazing system, sealants, weather stripping, stainless steel insect screens, awning and hopper vent inserts.

1.2.2 Window fabricator shall be responsible for attending the site and taking all necessary field dimensions to ascertain the actual existing rough openings. Widths and heights vary.

1.2.3 All pre-formed aluminium closures, trim components and stainless steel insect screens complete with all anchorage provisions.

1.2.4 Perimeter foam sealant between window framing and existing construction.

1.2.5 The dimensions indicated on the drawings are nominal. Fabricator must verify all field conditions.

1.2.6 Custom sized extruded aluminium window sills complete with anchor clips and end caps.

1.2.7 Two year warranty on complete installation, materials and work of this section.

1.2.8 Design window units to be self-supporting. Units shall be capable of sustaining all superimposed live and dead loads in accordance with Part 4 of the Ontario Building Code.

1.2.9 All of the above as specified herein and described on the drawings.

**1.3 Related Work**

1.3.1 Section 08880 Glazing.

**1.4 Shop Drawings**

1.4.1 Submit shop drawings showing all details and dimensions required for the fabrication and erection of work described in this section. Shop drawings shall incorporate all actual field dimensions prior to submission for review.

1.4.2 Submit sample drawings of operation hardware components for review on one representative cut away corner. Include frame, sash, sill glazing, surface finish, hardware and weatherproofing method.

**1.5 Quality Assurance**

1.5.1 Test reports must be submitted with shop drawings.

**1.5.2 Testing and Performance**

- Fixed window air tightness shall meet the FIXED rating (less than 0.045 cfm.ft (0.25 (m<sup>3</sup>/h)m<sup>1</sup>) at 1.57 p.s.f. (75Pa)) when tested in accordance with CAN/CSA-A440 – M-90.

- 1.5.3 Operating window air tightness shall meet the A3 rating (less than 0.10 cfm/ft (0.55 (m<sup>3</sup>/h)m<sup>1.57</sup> p.s.f 75Pa) when tested in accordance with CAN/CSA-A440 – M-90.
- 1.5.4 Fixed and operastiong window water tightness shall meet the B7 rating (no water leakage at 14.6 p.s.f. 700Pa) when tested in accordance with CAN/CSA-A440 – M-90.
- 1.5.5 Structural performance shall be based on CSA standard CAN3-S157 “Strength design in aluminium) and a maximum deflection of 1/175 of the span.
- 1.5.6 Wind load resistance for fixed and operating window shall meet the C5 rating when tested with configurations in accordance with CAN/CSA-A440 – M90.
- 1.5.7 Operating windows shall meet performance criteria for ease of operating, sash strength and stiffness in accordance with CAN/CSA-A440 – M90.
- 1.5.8 The fixed window termal transmittance U-value shall be 0.37 BTU/hr. ft.<sup>2</sup> - °F (2.1 W/m<sup>2</sup> - °C) when tested in accordance with AAMA 1503.1 and CAN/CSA-A440.2 – M90.
- 1.5.9 Condensation resistance factor
- Temperature Index 1-57 for fixed windows and 1-54 for operable awning and hopper units.
- 1.5.10 Dry shrinkage of thermal break shall not exceed 0.10% of the framing member length.
- 1.6 Operation & Maintenance Data
- 1.6.1 Upon substantial performance provide one standard part service kids and service manual. Arrange with and demonstrate to the Owner’s maintenance staff window operation, sash removal, re-glazing and general maintenance procedures.
- 1.7 Warranty
- 1.7.1 Provide written warranty that aluminum windows are guaranteed against leakage, defects and malfunction for a period of two years from date of substantial performance.
- 1.7.2 Provide a guarantee for insulating glass guaranteeing that if any noticeable obstruction of vision occurs as a result of film formation or dust collection between the sheets of glass during the period of five years from the date of acceptance of the completed project the insulating glass will be replaced with a guarantee continuing for the balance of the five-year period on the glass used for replacement the word “replace” as used herein includes installation.
- PART 2 PRODUCTS
- 2.1 Manufacturer
- 2.1.1 All window framing and operable units shall meet or exceed the requirements of these specifications and shall be manufactured by none other than one of the following manufacturer’s:
- Alwind Industries
  - Alumicore
  - Fulton Windows
  - Kawneer Company Canada Limited
  - Windspec
- 2.1.2 All framing shall accommodate a 25 mm insulating glazing unit.
- 2.2 Aluminum Extrusions
- 2.2.1 6063T54 alloy clear anodized finish in accordance with AA M12C22A31

2.3 Fasteners

2.3.1 300 series stainless steel.

2.4 Insect Screens

2.4.1 Stainless steel yarn 14 x 18 mesh screen conforming to CGSB79 - GP - 1M in heavy duty extruded aluminum frame finish to match window framing. Exposed fasteners are not acceptable.

2.5 Exterior Panning Trim

2.5.1 Extruded aluminum alloy 6063 – T5 as detailed, interlocked and back sealed to main frame of window 2 mm thick.

2.6 Fixed Aluminum Window Framing

2.6.1 Shall be Windspec 925RS series or approved equal by one of the listed manufacturers. Frame depth 152 mm. Thermally broken frames shall be complete with snap-in glazing stops, exterior POLYSHIM glazing tape and interior slide in spline.

2.6.2 Provide all required accessories and fasteners to render a complete installation.

2.7 Hopper Vents - Ground Floor Locations

2.7.1 Bottom hung open in. Windspec 535 series or equal by one of the listed manufacturers. Each unit shall be complete with one pair of truth 24.11 series CAM handles and stainless steel strikes, one pair of heavy duty Anderberg stainless steel four bar hinges and all required accessories to limit maximum opening of vent to 100 mm. All fasteners shall be stainless steel.

2.8 Internal Frame Insulation

2.8.1 Polycell insulation as manufactured by I.F. industries or equal by Tremco.

2.9 Sills

2.9.1 Sills are to be extruded aluminum to dimensions to suite the details in job conditions. Sills are to be installed in the longest practical length and with a minimum of joints. Where joints do occur they shall be only on the centre lines of window mullions. Cover plates over joints shall match the sills. Finishes of sills are to match the finishes of the windows. Sills to be complete with and caps and mill finish aluminum sill anchor clips at maximum 400 mm centres.

2.9.2 Break metal flashing will not be accepted for sills. Sills shall be mechanically secured with sill chairs and concealed fasteners.

2.10 Glazing Schedule

## 2.10.1 Sealed Insulated Glazing Units

Outer Lite: 6mm solar grey tinted, laminated safety glass by PPG. Complete with 13mm mill finish spacer (black primary seal) Black polysulphire secondary seal.

Inner Lite: 6mm tempered Sungate 500 Low E #3 surface

Visible transmittance	-	37%
Reflective	-	8%
U value summer	-	0.38
U value winter	-	0.35
Solar heat gain co-efficient	-	0.39
Shading co-efficient	-	0.44

### 2.11 Glazing Tape

2.11.1 Glazing tape for exterior wet seal between glass and framing: preformed butyl tape incorporating continuous EPDM cord shim mounted on a paper backer. Use POLYSHIM 11 by Tremco Limited colour black. Thickness of glazing tapes to be selected based on the manufacturer specifications to provide the recommended compression necessary to ensure watertight seal of the window assembly.

### 2.12 Fabrication

2.12.1 Fabricate windows using two separate frames joined by means to a thermal break. Cope and butt joints in main frame and sash neatly in weathertight manner. Secure by means of screws anchored into integral screw ports. Secure sash corners with inserted key like corner angles. Provide two keys per corner secured with appropriate crimping device to ensure a clean tight corner. Internally seal all sash corners. Deburr and make smooth all sharp milled edges and corners of frames.

2.12.2 Provide tubular sections for all vertical sash rails and screen frames. Provide cell members with minimum 5 degree slope. Provide sill weep system which will facilitate drainage of water accumulating in sill area while preventing passage of air, dirt and insects to the interior. Fabricate both inner and outer frames using specified screw fasteners without violating the thermal break. Exposed fasteners or the use of pop rivets are not acceptable.

2.12.3 Fabricate entire window in a manner that will allow easy replacement of defective, damaged, worn components, hardware or weather stripping.

## PART 3 EXECUTION

### 3.1 Construction

3.1.1 Construct units from extrusion of sizes and shapes shown on the drawings in formed with clean sharply defined profiles joints to accurately machine fitted assembled and sealed to provide neat weathertight joinery.

3.1.2 Provide adequate shielded drainage and pressure equalization where required. Glass stops for windows to be lock-in screwless type.

### 3.2 Erection

3.2.1 Window framing and door assemblies shall be installed, glazed and adjusted by experienced workers in accordance with the manufacturer's instructions and approved shop drawings. All items in the sections shall be set in their correct location and shall be level, square, plump, at proper elevations and in alignment with other work.

3.2.2 Aluminum to be placed in contact with concrete mortar or dissimilar metals shall be given a heavy coat of bituminous paint or contacting services.

3.2.3 Erection shall be carried out by or under the manufactures supervision.

3.2.4 Manufacturer shall provide and erect all clips, anchorage, etc. necessary for securing it's material to the building structure.

3.2.5 Allowances shall be made for movement due to thermal expansion and contraction in both vertical and horizontal members.

### 3.3 Quality of Work and Installations

- 3.3.1 Quality of work shall be best grade of modern shop and field practice known to recognized manufacturers specializing in this work. Joints and intersecting members shall be accurately fitted, made in true planes and adequate fastenings. Build and erect work square, true, straight, plumb, level, accurately in size detailed and free from distortion waves twist buckles or other defects detrimental to appearance or performance. Anchor units positively to building structure with inorganic non-corrosive anchors. Co-operate with other trades and subcontractors in method of anchorage. Anchor sills and position using approved anchors of maximum 400 mm on centre. Bed sills, joints, cover plates and drip deflectors in mastic sealer
- 3.3.2 To prevent infiltration of air, fill voids between aluminum extrusions, masonry or concrete rough openings with poly cell foam sealant insulation. Installation shall meet weather and infiltration test in accordance with CGSB63 - GP - 2 specification.
- 3.3.3 Install and adjust weatherstripping and hardware to provide proper seal.
- 3.3.4 Accurately fit frames to provide weathertight installation and still provide clearance required for expansion, contraction and deflection of building structure and frames.

### 3.4 Installation of Glass

- 3.4.1 Bed and glaze all glass as per window manufacturers glazing system recommendations to achieve specified performance requirements.

### 3.5 Caulking

- 3.5.1 The void between the aluminum frame and the window opening shall be completely filled with the specified foam sealant. Minimum 48 hours prior to commencing caulking and raked back.
- 3.5.2 Perimeter caulking between aluminum frames, sills and adjoining material shall be caulked with a neat bead of Tremco Dymeric caulking on interior and exterior as shown or required to provide completely weathertight enclosures. Fill all spaces around windows with ethafoam backer rod packed tightly in place within 10 mm 3/8" of finishing surface. Fill remaining space with caulking.
- 3.5.3 Application of caulking shall be in strict accordance with manufacturers printed directions under supervision of and using pressure guns and mix charging equipment approved by caulking manufacturer caulking shall be applied to clean, dry, grease and oil free surfaces. Exposed caulking shall be smooth, free from ridges, wrinkles, air pockets and embedded foreign materials. Colour of caulking to match window frame.
- 3.5.4 Remove excess caulking or droppings which set up or become difficult to remove from finished surfaces. Chemicals, scrapers or other tools which would affect finish surface shall not be used. Finished surfaces damaged due to the work shall be replaced at contractor's expense to approval of the architect.

### 3.6 Clean Up

- 3.6.1 On completion of the job and before acceptance by the owners the contractors under this division shall engage experienced windows and glass cleaners to remove all paint spots, plaster spots, stickers etc. from all glass and aluminum surfaces throughout the job. All cleaning shall be done with clean water and detergent and dried with squeegees and chamois.
- 3.6.2 The general contractor shall ensure any mortar droppings are immediately washed off the glazing and aluminum components to prevent chemical damage to the work of this section.

- 3.6.3 Do not install insect screens until one week prior to request for substantial performance to prevent dust buildup and damage by other trades and glass has been cleaned.

END OF SECTION 08500