

Addendum 05

Project:	New Fire Station No. 1 RFT# T-FD-22-01 Highlands Boulevard, Millbrook, ON	
Date:	June 16, 2022	
Owner:	Township of Cavan Monaghan	
Greenview File:	164.21.005	

This Addendum forms part of the Tender Documents and shall supersede all prior issued tender documentation and/or Addenda as noted, and specifically applicable.

This Addendum consists of 2 page(s), and 5 attachments.

- Mechanical Addendum M1 (June 15, 2022).
- Electrical Addendum E2 (June 16, 2022).
- Section 08 14 16 Flush Wood Doors.
- Section 08 33 23 Overhead Coiling Doors.
- Section 10 28 00 Washroom Accessories.

## 1. General Clarifications:

- .1 Substantial Performance of the Work.
  - .1 The Owner is aware that products associated with the Work may have longer than typical delivery times. Bidders shall account for all aspects of the construction schedule, and propose any alternatives in Appendix C of the Tender Forms that the Owner may consider to offset potential schedule impacts in meeting the prescribed date of Substantial Performance of the Work.

## 2. Project Manual:

- .1 Section 00 21 13 Instructions to Bidders.
  - .1 Part 1.1.1.2, revise "22<sup>nd</sup>" to "28<sup>th</sup>", extending the bid closing date.
  - .2 Part 1.6.1, revise "June 15" to "June 21", extending the bid inquiry period.
  - .3 Part 1.6.3, add, "as deemed appropriate by the Consultant" after the word, "Addenda".
- .2 Section 01 21 00 Allowances.
  - .1 Part 1.3 Cash Allowances:
    - .1 For item 1.3.7.5, the sum of \$50,000 is reserved for such electrical servicing works as deemed necessary by Hydro One Networks Inc. as per their offer to connect. Refer to additional information in Electrical Addendum E1 in tender Addendum 04 (June 10, 2022) for additional information.
    - .2 For item 1.3.7.8, the sum of \$25,000 is reserved for plantings such as trees and shrubs, and associated landscaping beds and features. Grass sodding and spot seeding and such restoration work is part of the base bid price, not the cash allowance.
- .3 Section 07 21 13 Board Insulation.
  - .1 Part 2.1 Manufacturers Insulation Materials, delete, .1, re: IKO Enerfoil.



- .2 Part 2.3.3 Polyisocyanurate Insulation, delete ".1 Compressive Strength: 275 kPa (40psi).".
- .4 Section 08 14 16 Flush Wood Doors.
  - .1 Add section to Project Manual as attached.
- .5 Section 08 33 23 Overhead Coiling Doors.
  - .1 Add section to Project Manual as attached.
- .6 Section 10 28 00 Washroom Accessories.
  - .1 Add section to Project Manual as attached.

## 3. Drawings:

- .1 Building Design Drawings:
  - .1 Drawing 501:

## .1 Add Schedule 05 – Washroom Accessories.

SCHEDULE 05 – WASHROOM ACCESSORIES								
ITEM	QTY.	ROOM NUMBER	LOCATION	MANUFACTURER	MODEL	NOTES		
STRAIGHT GRAB BAR	2	106, & 125	BARRIER FREE STD.	FROST	1001NP 24			
L – GRAB BAR	2	106, & 125	BARRIER FREE STD.	FROST	1003NP 30X30			
FOLDING GRAB BAR	2	106, & 125	BARRIER FREE STD.	FROST	1055-S			
4" DEEP SHELF	2	106, & 125	BARRIER FREE STD.	FROST	950-18			
COAT HOOK	2	106, & 125	BARRIER FREE STD.	AMERICAN SPECIALTIES INC.	1306			
FOLDING WALL BENCH	2	108, & 109	OPPOSITE SHOWER	FROST	975 (1-L, & 1-R)			
MIRROR	4	106. 108, 109, & 125	BARRIER FREE STD.	FROST	941-2436 TG			
PAPER TOWEL DISPENSER	4	106, 108, 109, & 125	TBD	FROST	103			
WASTE DISPOSAL RECEPTACLE	4	106. 108, 109, & 125	TBD	FROST	303-3 NL			
SANITARY NAPKIN RECEPTACLE	3	106. 109, & 125	WITH TOILET	FROST	622			
SOAP DISPENSER	5	106, 108 (2), 109, & 125	WITH SINK	FROST	708A			
TOILET PAPER HOLDER	5	106. 108 (2), 109, & 125	WITH TOILET	FROST	1135 DBL SS			
SHOWER ROD	2	108, & 109	SHOWER	FROST	1145-S			
SHOWER CURTAIN & HOOKS	2	108, & 109	SHOWER	FROST	1144-502, & 501L			
TOWEL RACK	2	108, & 109	OVER WB-1	FROST	11275			
WASHROOM PARTITIONS	*	108, & 109	*	*	*	CEILING HUNG, * REFER TO SPECIFICATIONS IN PROJECT MANUAL		
	ITEM STRAIGHT GRAB BAR L - GRAB BAR FOLDING GRAB BAR 4" DEEP SHELF COAT HOOK FOLDING WALL BENCH MIRROR PAPER TOWEL DISPENSER WASTE DISPOSAL RECEPTACLE SANITARY NAPKIN RECEPTACLE SANITARY NAPKIN RECEPTACLE SANITARY NAPKIN RECEPTACLE SANITARY NAPKIN RECEPTACLE SHOWER ROD SHOWER ROD SHOWER CURTAIN & HOOKS TOWEL RACK	ITEM QTY.   STRAIGHT GRAB BAR 2   L - GRAB BAR 2   FOLDING GRAB BAR 2   4" DEEP SHELF 2   COAT HOOK 2   FOLDING WALL BENCH 2   MIRROR 4   PAPER TOWEL DISPENSER 4   WASTE DISPOSAL RECEPTACLE 3   SOAP DISPENSER 5   TOILET PAPER HOLDER 5   SHOWER ROD 2   SHOWER CUTAIN & HOOKS 2   TOWEL RACK 2	ITEM     QTY.     ROOM NUMBER       STRAIGHT GRAB BAR     2     106, & 125       L - GRAB BAR     2     106, & 125       FOLDING GRAB BAR     2     106, & 125       FOLDING GRAB BAR     2     106, & 125       4" DEEP SHELF     2     106, & 125       COAT HOOK     2     106, & 125       FOLDING WALL BENCH     2     108, & 109       MIRROR     4     106, 108, 109, & 125       PAPER TOWEL DISPENSER     4     106, 108, 109, & 125       SANITARY NAPKIN RECEPTACLE     3     106, 108, 109, & 125       SOAP DISPENSER     5     106, 108 (2), 109, & 125       SHOWER ROD     2     108, & 109       SHOWER CURTAIN & HOOKS     2     108, & 109       TOWEL RACK     2     108, & 109	ITEM     QTY.     ROOM NUMBER     LOCATION       STRAIGHT GRAB BAR     2     106, & 125     BARRIER FREE STD.       L - GRAB BAR     2     106, & 125     BARRIER FREE STD.       FOLDING GRAB BAR     2     106, & 125     BARRIER FREE STD.       FOLDING GRAB BAR     2     106, & 125     BARRIER FREE STD.       4" DEEP SHELF     2     106, & 125     BARRIER FREE STD.       COAT HOOK     2     106, & 125     BARRIER FREE STD.       FOLDING WALL BENCH     2     108, & 109     OPPOSITE SHOWER       MIRROR     4     106, 108, 109, & 125     BARRIER FREE STD.       PAPER TOWEL DISPENSER     4     106, 108, 109, & 125     TBD       SANITARY NAPKIN RECEPTACLE     3     106, 108, 109, & 125     WITH TOILET       SANITARY NAPKIN RECEPTACLE     3     106, 108 (2), 109, & 125     WITH TOILET       SANITARY NAPKIN RECEPTACLE     3     106, 108 (2), 109, & 125     WITH TOILET       SOAP DISPENSER     5     106, 108 (2), 109, & 125     WITH TOILET       SHOWER ROD     2     108, & 109     SHOWER	ITEM     QTY.     ROOM NUMBER     LOCATION     MANUFACTURER       STRAIGHT GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST       L - GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST       FOLDING GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST       4" DEEP SHELF     2     106, & 125     BARRIER FREE STD.     FROST       COAT HOOK     2     106, & 125     BARRIER FREE STD.     FROST       COAT HOOK     2     106, & 125     BARRIER FREE STD.     FROST       COAT HOOK     2     106, & 125     BARRIER FREE STD.     AMERICAN SPECIALTIES INC.       FOLDING WALL BENCH     2     108, & 109     OPPOSITE SHOWER     FROST       MIRROR     4     106, 108, 109, & 125     BARRIER FREE STD.     FROST       MARROR     4     106, 108, 109, & 125     TBD     FROST       SANITARY NAPKIN RECEPTACLE     3     106. 108, 4215     WITH TOILET     FROST       SANITARY NAPKIN RECEPTACLE     3     106. 108 (2), 109, & 125     WITH SINK     FROST <td>ITEM     QTY.     ROOM NUMBER     LOCATION     MANUFACTURER     MODEL       STRAIGHT GRAB BAR     2     106, &amp; 125     BARRIER FREE STD.     FROST     1001NP 24       L - GRAB BAR     2     106, &amp; 125     BARRIER FREE STD.     FROST     1003NP 30X30       FOLDING GRAB BAR     2     106, &amp; 125     BARRIER FREE STD.     FROST     1055-S       4" DEEP SHELF     2     106, &amp; 125     BARRIER FREE STD.     FROST     950-18       COAT HOOK     2     106, &amp; 125     BARRIER FREE STD.     FROST     950-18       COAT HOOK     2     106, &amp; 125     BARRIER FREE STD.     AMERICAN SPECIALTIES INC.     1306       FOLDING WALL BENCH     2     108, &amp; 109     OPPOSITE SHOWER     FROST     975 (1-L, &amp; 1-R)       MIRROR     4     106. 108, 109, &amp; 125     BARRIER FREE STD.     FROST     941-2436 TG       PAPER TOWEL DISPENSER     4     106, 108, 109, &amp; 125     TBD     FROST     103       SANIFARY NAPKIN RECEPTACLE     3     106. 108, 109, &amp; 125     WITH TOILET     FROST     622       S</td>	ITEM     QTY.     ROOM NUMBER     LOCATION     MANUFACTURER     MODEL       STRAIGHT GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST     1001NP 24       L - GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST     1003NP 30X30       FOLDING GRAB BAR     2     106, & 125     BARRIER FREE STD.     FROST     1055-S       4" DEEP SHELF     2     106, & 125     BARRIER FREE STD.     FROST     950-18       COAT HOOK     2     106, & 125     BARRIER FREE STD.     FROST     950-18       COAT HOOK     2     106, & 125     BARRIER FREE STD.     AMERICAN SPECIALTIES INC.     1306       FOLDING WALL BENCH     2     108, & 109     OPPOSITE SHOWER     FROST     975 (1-L, & 1-R)       MIRROR     4     106. 108, 109, & 125     BARRIER FREE STD.     FROST     941-2436 TG       PAPER TOWEL DISPENSER     4     106, 108, 109, & 125     TBD     FROST     103       SANIFARY NAPKIN RECEPTACLE     3     106. 108, 109, & 125     WITH TOILET     FROST     622       S		

- .2 Civil Drawings C102 & C103:
  - .1 Revise note referencing new entrance from Highlands Boulevard to be revised to "NEW 9.00m WIDE ENTRANCE..." (not 15.00m width).

## End of Addendum 05





ADDENDUM

TO: Bidders C/o . Greenview Environmental

ADDENDUM NO .: M1

PROJECT NO.: 21061

**DATE:** June 15, 2022

PROJECT: Cavan Millbrook Fire station No 1 - 988 County Road 10 Millbrook On..

This Addendum forms part of the bid documents.

Drawing M5 - Schedules - Mechanical

- 1.1 On Split Air Conditioning System Schedule SAC-1 model number to be clarified as 59TP6B040V14-10
- 1.2 On Split Air Conditioning System Schedule in remarks "cooling coil to be cased".
- 1.3 On Split Air Conditioning System Schedule CU-1 clarified as cooling only as specified.
- 1.4 On Air Conditioning Unit Schedule air flow for A/C-2 should read 1600 cfm.
- 1.5 On Air Conditioning Unit Schedule in remarks contractor to to have a factory start- up and owner demo."

Steve Stranaghan

Steve Stranaghan Senior Designer steve.stranaghan@otsengineering.com

File: \\OTSSVR\Data\Projects\2021\21061 - Fire Station No 1 - Millbrook\Correspondence\21061 - Addendum - 01.wpd

# **BERTHELOT ENGINEERING LTD.**

2193 Lynhaven Rd, Peterborough, Ontario, Canada K9K 1W8 Tel: (705) 775-1517 email: pberthelot@bertheloteng.com

# **ELECTRICAL ADDENDUM #2**

**TO:** Greenview Environmental

13 Commerce Court Bancroft, Ontario K0L ELEC. ADDEN. No.: E2 PROJECT No.: 473 PROJECT NAME: New Fire Station No. 1 DATE: June 16, 2022

## **ATTENTION:** Tyler Peters,

This addendum forms part of the contract documents and is to be read, interpreted, and coordinated with all other parts, and shall be issued by Greenview Environmental. The following items shall be added to the tendered price for this project:

## General

- 1. Detail 3, on Drawing E2 shows 2-100mm conduits for Communication. The intent of these duct is to follow the routing of the primary and secondary tranches from the hydro pole at the property line and terminate in the electrical room at the communications backboard. These ducts will not enter the transformer vault.
- 2. On the single line diagram on drawing E7, the conduit and wire feed for the generator shore power states that the conduit and wire shall be sized by the contractor. The generator has a number of devices that need to be connected to power. The size of the panel that is installed is generally determined by the generator supplier. This panel is usually 60 or 100 Amps. Contractor shall supply conduit and wire suitable to feed this panel.
- 3. The power feeds to the generator are detailed on the single line diagram.
- 4. The feed to the new display board shall follow the same trench details as the site lighting.
- 5. Primary supply and installation details for items such as transformer vault and grounding shall follow HydroOne standards. All required details should be obtained from HydroOne.

## **REQUESTED BY:** Paul Berthelot, P.Eng.

## Part 1 General

#### **1.1 Section Includes**

.1 Flush wood doors.

## 1.2 Related Requirements

- .1 Section 08 11 13 Metal Doors and Frames.
- .2 Section 08 71 00 Door Hardware General.
- .3 Section 08 80 00 Glazing
- .4 Section 09 91 00 Painting: Site finishing of doors.

#### **1.3 Reference Standards**

- .1 ANSI A135.4 Basic Hardboard Standard, Edition 12.
- .2 ASTM E413-16 Classification for Rating of Sound Insulation.
- .3 NAAWS 3.1 North American Architectural Woodwork Standards (AWS) 2017.
- .4 CAN/ULC-S104-15 Standard Method for Fire Tests of Door Assemblies.
- .5 CAN/ULC-S105-09 Standard Specification for Fire Door Frames Meeting the Performance Required by CAN/ULC-S104.
- .6 CHPVA (Canadian Hardwood Plywood and Veneer Association) Official Grading Rules for Canadian Hardwood Plywood-2010.
- .7 HPVA (Hardwood Plywood and Veneer Association).
- .8 ITS (Intertek Testing Services).
- .9 NEMA LD 3-2005 High Pressure Decorative Laminates (HPDL).
- .10 NFPA 80 Standard for Fire Doors and Other Opening Protectives, 2019 Edition.
- .11 NFPA 252 Fire Tests of Door Assemblies, 2017 Edition.
- .12 UL Fire Resistance Directory.
- .13 ULC-FR-17 Fire Resistance Directory (2017 Edition).

#### **1.4 Administrative Requirements**

- .1 Section 01 31 00: Project management and coordination procedures.
- .2 Coordination:
  - .1 Coordinate with other work having a direct bearing on work of this section.
  - .2 Coordinate the work with door opening construction, door frame and door hardware installation.

## **1.5 Action Submittals**

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- .3 Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, and factory finishing criteria. Identify cutouts for glazing.

#### **1.6 Informational Submittals**

- .1 Section 01 33 00: Submission procedures.
- .2 Installation Data: Manufacturer's special installation requirements.

## **1.7 Closeout Submittals**

.1 Section 01 78 00: Submission procedures.

#### **1.8 Quality Assurance**

.1 Finish doors in accordance with AWS to finish identified in schedule.

## 1.9 Delivery, Storage, And Handling

- .1 Section 01 61 00: Transport, handle, store, and protect products.
- .2 Accept doors on site in manufacturer's packaging. Inspect for damage.
- .3 Protect doors with resilient packaging Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

#### 1.10 Warranty

- .1 Section 01 78 00: Warranties.
- .2 Provide warranty to include coverage for failure to meet specified requirements, to the following term: .1 Life of Installation: Interior doors.
- .3 Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

## **Part 2 Products**

#### 2.1 Door Leaf Types

.1 Interior Doors: 44 mm (1-3/4 inches) thick; solid core construction.

## 2.2 Door Leaf Construction

.1 Core (Solid, Non-Rated): Type SLC - Stave Lumber.

#### 2.3 Door Facing

.1 Veneer Facing (Interior Doors): Premium quality species wood, with end matched grain for paint or transparent finish.

#### 2.4 Adhesive

.1 Facing Adhesive: Type II - water resistant.

#### 2.5 Accessories

- .1 Refer to schedules on Drawings.
- .2 Glazing Stops: Wood, of same species as door facing mitred corners; prepared for countersink style screws.

#### 2.6 Fabrication

- .1 Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.
- .2 Factory machine doors for recessed hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Provide solid blocking for through bolted hardware.

## 2.7 Finishes

- .1 Factory finish doors in accordance with approved sample.
- .2 Seal door top edge with colour sealer to match door facing.

## **Part 3 Execution**

## 3.1 Examination

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify that opening sizes and tolerances are acceptable.
- .3 Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

## 3.2 Installation

- .1 Install doors to manufacturer's instructions.
- .2 Install non-rated doors in accordance with standard requirements.
- .3 Trim non-rated door width by cutting equally on both jamb edges.
- .4 Trim door height by cutting bottom edges to a maximum of 19 mm (3/4 inch). Trim fire door height at bottom edge only, in accordance with fire rating requirements.
- .5 Machine cut for hardware.
- .6 Coordinate installation of doors with installation of frames and hardware.
- .7 Coordinate installation of glass and glazing.

## 3.3 Tolerances

- .1 Section 01 73 00: Tolerances.
- .2 Maximum Diagonal Distortion (Warp): 3 mm (1/8 inch) measured with straight edge or taut string, corner to corner, over an imaginary 915 x 2130 mm (36 x 84 inches) surface area.
- .3 Maximum Vertical Distortion (Bow): 3 mm (1/8 inch) measured with straight edge or taut string, top to bottom, over an imaginary 915 x 2130 mm (36 x 84 inches) surface area.
- .4 Maximum Width Distortion (Cup): 3 mm (1/8 inch) measured with straight edge or taut string, edge to edge, over an imaginary 915 x 2 130 mm (36 x 84 inches) surface area.

## 3.4 Adjusting

- .1 Adjust door for smooth and balanced door movement.
- .2 Adjust closer for full closure.

## **End of Section**

## Part 1 General

#### 1.1 Section Includes

.1 Overhead coiling door or shutter, and operating hardware.

#### **1.2 Related Requirements**

.1 Section 08 71 00 - Door Hardware - General: Cylinder core and keys.

#### 1.3 Reference Standards

- .1 ASTM A480/A480M-19a Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
- .2 ASTM A653/A653M-19a Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .3 ASTM A666-15 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- .4 ASTM B209M-14 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- .5 ASTM B209-14 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- .6 ASTM B221M-13 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- .7 ASTM B221-14 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- .8 CSA-C22.2 No. 100-14 (R2019) Motors and Generators.
- .9 CSA-C22.2 No. 247-14 (R2019) Operators and Systems of Doors, Gates, Draperies and Louvres.
- .10 CSA-C22.1-18 Canadian Electrical Code, Part I, Safety Standard for Electrical Installations (24th Edition).
- .11 CAN/ULC-S104-15 Standard Method for Fire Tests of Door Assemblies.
- .12 NEMA 250-2018 Enclosures for Electrical Equipment (1000 Volt Maximum).
- .13 NEMA ICS 2-2000 (R2008) Industrial Control and Systems: Controllers, Contactors, and Overload Relays Rated 600 Volts.
- .14 NEMA MG 1-2016 Motors and Generators.
- .15 UL 325-2017 Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems (7th Edition).
- .16 UL Fire Resistance Directory.
- .17 ULC-FR-17 Fire Resistance Directory (2017 Edition).

## **1.4 Action Submittals**

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Provide general construction, component connections and details.
- .3 Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.
- .4 Samples: Submit two (2) two (2) samples of door/shutter slats, 100 mm in size illustrating shape, colour and finish texture.

## 1.5 Informational Submittals

- .1 Section 01 33 00: Submission procedures.
- .2 Installation Data: Manufacturer's special installation requirements, including installation sequence and procedures, adjustment and alignment procedures.

## **1.6 Closeout Submittals**

.1 Section 01 78 00: Submission procedures.

.2 Operation and Maintenance Data: Indicate lubrication requirements and frequency and periodic adjustments required.

## Part 2 Products

## 2.1 Manufacturers

- .1 SDI; Product: FPCF, Push Up, Face Mounted.
- .2 CHI; Product: Model 7500, Fire Shutter.
- .3 Wayne Dalton; Product: Fire Star Model 540.
- .4 Other acceptable manufacturers offering functionally and aesthetically equivalent products.
- .5 Substitutions: Refer to Section 01 25 00.

## 2.2 Description

- .1 System Description:
  - .1 Manual push up unit with overhead counter balance device, requiring 10 kg nominal force to operate.
  - .2 Fire rated shutter, fusible link activated with automatically governed closing speed.
  - .3 Cylinder lock.
- .2 Regulatory Requirements:
  - .1 Fire Rated Door and Frame Construction: Labelled and listed to CAN/ULC-S104.
  - .2 Installed Fire Door Assembly: Conform to NFPA 80 for fire rated class as indicated.
  - .3 FRR 45 minutes minimum.

## 2.3 Performance / Design Criteria

.1 Design shutter assembly to withstand wind/suction load of 940 Pa, without undue deflection or damage to shutter or assembly components.

## 2.4 Hood Enclosure

.1 Hood Enclosure and Fascia: Galvanized steel, internally reinforced to maintain rigidity and shape.

## 2.5 Counterbalancing Mechanism

.1 Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension.

## 2.6 Hardware

- .1 Hardware:
  - .1 Cylinders: locking type; shutters keyed as per schedule.
  - .2 Handle: Inside, centre mounted, adjustable keeper, spring activated latch bar with feature to keep in locked or retracted position; interior and exterior handle.

## 2.7 Finishes

- .1 Curtain Slats: Precoated paint finish, colour as selected by Owner from a standard range.
- .2 Steel Guides and Hood Enclosure: precoated paint finish, match shutter slats.

## Part 3 Execution

## 3.1 Examination

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify that opening sizes, tolerances and conditions are acceptable.

## 3.2 Installation

- .1 Install shutter unit assembly to manufacturer instructions.
- .2 Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- .3 Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- .4 Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- .5 Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07 92 00.
- .6 Install perimeter trim.

## 3.3 Erection Tolerances

- .1 Section 01 73 00: Tolerances.
- .2 Maintain dimensional tolerances and alignment with adjacent work.
- .3 Maximum Variation From Plumb: 1.5 mm.
- .4 Maximum Variation From Level: 1.5 mm.
- .5 Longitudinal or Diagonal Warp: Plus or minus 3 mm per 3 m straight edge.

## 3.4 Adjusting

.1 Adjust shutter, hardware and operating assemblies for smooth and noiseless operation.

## 3.5 Cleaning

- .1 Section 01 74 10: Cleaning installed work.
- .2 Clean shutter and components.
- .3 Remove labels and visible markings.

## **End of Section**

## Part 1 General

#### 1.1 Section Includes

- .1 Toilet, and washroom accessories.
- .2 Grab bars.
- .3 Attachment hardware.

#### **1.2 Related Requirements**

- .1 Section 05 50 00 Metal Fabrications: In wall framing and plates, above ceiling framing for support of accessories.
- .2 Section 06 10 53 Miscellaneous Rough Carpentry.
- .3 Section 08 80 00 Glazing: Wall mirrors.
- .4 Section 10 21 13 Plastic Toilet Compartments.

#### **1.3 Reference Standards**

- .1 ASTM A123/A123M-17 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .2 ASTM A167-99(2009) (Withdrawn) Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- .3 ASTM A269/A269-15a(R2019) Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
- .4 ASTM A1018/A1018M-18 Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- .5 ASTM B456-17 Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
- .6 CSA-B651-18 Accessible Design for the Built Environment.
- .7 NEMA LD 3-2005 High Pressure Decorative Laminates (HPDL).
- .8 Ontario Building Code, latest edition/revision.
- .9 Accessibility for Ontarians with Disabilities Act, as amended.

#### **1.4 Administrative Requirements**

- .1 Section 01 31 00: Project management and coordination procedures.
- .2 Coordination:
  - .1 Coordinate with other work having a direct bearing on work of this section.
  - .2 Coordinate the work with the placement of internal wall reinforcement, reinforcement of toilet partitions to receive anchor attachments.

#### **1.5 Action Submittals**

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.
- .3 Samples: Submit two (2) samples of each component, illustrating colour and finish.

#### **1.6 Informational Submittals**

- .1 Section 01 33 00: Submission procedures.
- .2 Installation Data: Manufacturer's special installation requirements including special procedures and perimeter conditions requiring special attention.

## **1.7 Closeout Submittals**

.1 Section 01 78 00: Submission procedures.

## Part 2 Products

## 2.1 Manufacturers

- .1 Frost; Product: Refer to contract drawings and schedules.
- .2 Bobrick; Product: Refer to contract drawings and schedules.
- .3 American Specialties Inc.; Product: Refer to contract drawings and schedules.
- .4 Other acceptable manufacturers offering functionally and aesthetically equivalent products.
- .5 Substitutions: Refer to Section 01 25 00.

## 2.2 Description

- .1 Regulatory Requirements:
  - .1 Conform to applicable code for accessibility requirements for the handicapped.

## 2.3 Materials

- .1 Sheet Steel: ASTM A1008/A1008M.
- .2 Stainless Steel Sheet: ASTM A167, Type 304.
- .3 Tubing: ASTM A269, stainless steel.
- .4 Plastic Laminate: NEMA LD3, general purpose.
- .5 Adhesive: Two-component epoxy type, waterproof.
- .6 Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof, security type.
- .7 Expansion Shields: Fibre, lead, or rubber as recommended by accessory manufacturer for component and substrate.
- .8 Primer: Per manufacturer specifications.

## 2.4 Fabrication

- .1 Weld and grind joints of fabricated components, smooth.
- .2 Form exposed surfaces from single sheet of stock, free of joints. Form surfaces flat without distortion. Maintain surfaces without scratches or dents.
- .3 Fabricate grab bars of tubing, free of visible joints, return to wall with end attachment flanges.
- .4 Shop assemble components and package complete with anchors and fittings.
- .5 Provide steel anchor plates, adapters, and anchor components for installation.

## 2.5 Keying

.1 Supply keys for each accessory to Owner as required.

## 2.6 Finishes

- .1 Refer to schedules on Drawings.
- .2 Galvanizing: Hot-dip galvanized to ASTM A123/A123M, appropriate grade for type and size of steel material indicated. Galvanize ferrous metal and fastening devices.
- .3 Shop Primed Ferrous Metals: Pre-treat and clean, spray apply one coat primer and bake.
- .4 Enamel: Pre-treat to clean condition, apply one (1) coat primer and minimum two (2) coats epoxy baked enamel.
- .5 Chrome/Nickel Plating: ASTM B456, Type SC 2, satin finish.
- .6 Stainless Steel: No. 4 Satin finish.

## Part 3 Execution

## 3.1 Examination

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify that field measurements are as indicated.

- .3 Verify that site conditions are ready to receive work and dimensions are as indicated on Shop Drawings.
- .4 Verify exact location of accessories for installation.

## 3.2 Preparation

- .1 Deliver inserts and rough-in frames to site for timely installation.
- .2 Provide templates and rough-in measurements as required.

## 3.3 Installation

- .1 Install accessories to manufacturer's written instructions, CSA-B651.
- .2 Install plumb and level, securely and rigidly anchored to substrate.

## 3.4 Schedules

.1 Refer to Contract drawings.

## End of Section