

**Part 1 GENERAL**

**1.1 REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
  - .1 ASTM A653/A653M-[01a], Standard Specification for Steel Sheet, Zinc-Coated, (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - .2 ASTM B32-[00], Standard Specification for Solder Metal.
  - .3 ASTM B456-[95], Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
- .2 Aluminum Association, Inc. (AA)
  - .1 Designation System for Aluminum Finishes
- .3 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-1.81-[M90], Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
  - .2 CAN/CGSB-1.88-[92], Gloss Alkyd Enamel, Air Drying and Baking.
  - .3 CGSB 31-GP-107Ma-[90], Non-Inhibited Phosphoric Acid Base Metal Conditioner and Rust Remover.
  - .4 CGSB 41-GP-6M-[1983], Sheets, Thermosetting Polyester Plastics, Glass Fibre Reinforced.
- .4 Canadian Standards Association (CSA)
  - .1 CAN/CSA-G164-[M92(R1998)], Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .2 CSAW47.2-[M1987(R1998)], Certification of Companies for Fusion Welding of Aluminum.
  - .3 CSA W59-[M1989(R2001)], Welded Steel Construction (Metal Arc Welding) (Imperial Version).
  - .4 CSA W59.2-[M1991(R1998)], Welded Aluminum Construction.
- .5 Canadian Sheet Steel Building Institute (CSSBI)
  - .1 Sheet Steel Facts # 6, Metallic Coated Sheet Steel for Structural Building Products.
- .6 The Master Painters Institute (MPI)
  - .1 Architectural Painting Specification Manual
- .7 Canada Green Building Council (CaGBC)
  - .1 LEED Canada Reference Guide for Green Building Design and Construction 2009

**1.2 SHOP DRAWINGS**

- .1 Submit representative sample of each type of sign, sign image and mounting method, including, but not limited to graphic, cast letters, sign box installation method, channel letters and wall plates fixed mounting installation method.

- .2 Indicate materials, thicknesses, sizes, finishes, colours, construction details, removable and interchangeable components, mounting methods, schedule of signs.
- .3 Submit drawn-to-scale details for individually fabricated or incised lettering indicating word and letter spacing.
- .4 Submit representative sample of each type sign, sign image and mounting method.
- .5 Submit manufacturer's printed product literature panel signage or components, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .6 Submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

### **1.3 MAINTENANCE DATA**

- .1 Provide maintenance data for illuminated signs for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

### **1.4 QUALITY ASSURANCE**

- .1 Welding Certification in accordance with CSA W47.2.

### **1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away for public.
- .4 Use chemical hardeners that are non-toxic, biodegradable and have zero or low VOC's.
- .5 Dispose of surplus chemical and finishing materials in accordance with Federal, Provincial and Municipal regulations.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Aluminum extrusions: to AA 6063-T5 or AA 6006-T5.
- .2 Sheet aluminum: utility quality.
- .3 Prefinished sheet aluminum: plain utility sheet with manufacturer applied baked enamel finish 0.25 mm thick on face and 0.0076 mm thick on back.
- .4 Casting aluminum: CSA HA Series - HA.9-SG7ON-T6.
- .5 Prefinished sheet steel: conforming to CSSBI - Sheet Steel Facts #6: for normal environments.

- .6 Galvanized steel sheet to ASTM A653/A653M: Commercial Quality
- .7 Acrylic sheet: polymethylmethacrylate (PMMA) cast sheet suitable for intended use in sign fabrication, colours as indicated.
- .8 Engraving sheet: lamicoid 3.2 mm thick plastic sheet, white core.
- .9 Self-stick foam tape: 1.6 mm thick, 352.4 kg/m<sup>3</sup> density polyurethane open-cell foam tape for sign purposes, with synthetic self-stick adhesive on both sides. Width: to suit sign sizes.
- .10 Adhesives, paints, sealants and solvents for acrylic sheet: type recommended by sheet manufacturer for applicable condition.
- .11 Acrylic top-coat: clear, non-yellowing, exterior grade, satin finish, acrylic polyester resin protective coating, compatible with acrylic surface of type recommended by sheet manufacturer.
- .12 Bituminous paint: to CAN/CGSB-1.108, type 2.

## **2.2 EXTERIOR NAME**

- .1 Name, size and spacing of letters as indicated on the drawings:
  - .1 CNC cut aluminum letters, 6 mm thickness.
  - .2 Typeface: Arial
  - .3 Finish: To be 'autophoretic' coating, black colour

## **2.3 SIGN GRAPHICS**

- .1 Sign graphics to be well defined, arranged for balanced appearance, and properly word and letter spaced.
- .2 Cut and spray process: mask surfaces, accurately cut-out image, then spray apply uniform coating to obtain opaque finish.
- .3 Silk screen process: apply multi-colour photographic produced silk screen printed images to back side of transparent sign faces; face side of opaque sign faces.
- .4 Engraving: apply sign images using pantograph mechanical engraving machine to obtain incised letters as detailed or specified.
- .5 Self-stick vinyl film: individual letters and numerals and symbols die cut from 0.1 mm thick matte finish, exterior grade PVC film, with self-stick adhesive backing. Colours to be determined by Contract Administrator from manufactures full range of colours.
- .6 Decals: silk screened or printed images on 0.038 mm, clear matte finish, mylar film, with self-stick adhesive backing. Protect image with laminated film overlay of same material as decal base.

## **2.4 CUT-OUT LETTERS**

- .1 Cut letters and symbols from coloured acrylic.

- .2 Century Gothic typeface, upper and lower case; sizes and thicknesses as indicated. Make corners square cut.

## **2.5 WALL, DOOR AND NUMBER PLATES**

- .1 Refer to Section 10 14 67 – Barrier Free Signage.

## **2.6 GENERAL FABRICATION REQUIREMENTS**

- .1 Fabricate signs in accordance with details, specifications and shop drawings.
- .2 Build units square, true, accurate to size, free from visual or performance defects.
- .3 Accurately fit and securely join sections to obtain tight, closed joints.
- .4 Allow for thermal movement without distortion of components.
- .5 Exposed fasteners permitted only where indicated or approved by Contract Administrator and to be inconspicuous and same finish and colour as base material, or as noted.
- .6 Polish exposed edges of plastic and metal to smooth, slightly convex profile.
- .7 Apply bituminous paint to aluminum in contact with dissimilar metals, concrete or masonry.
- .8 Manufacturer's nameplates on sign surface locations visible in completed Work not acceptable.

## **Part 3 Execution**

### **3.1 INSTALLATION, GENERAL**

- .1 Erect and secure signs plumb and level at elevations indicated.
- .2 Comply with sign manufacturer's installation instructions and approved shop drawings.
- .3 Mechanical attachment:
  - .1 To concrete or solid masonry use lag screws and expansion bolts or screws and fibre plugs, as appropriate for stresses involved.
  - .2 To hollow masonry use toggle bolts or equivalent in accordance with B6.
  - .3 To steel use bolts with nut and lock washers, self-tapping screws, welding, as appropriate for stresses and metal thicknesses.
  - .4 To wood use screws.
  - .5 Secure into framing members behind stud walls or above ceilings.
  - .6 Mechanical fasteners on exterior to be non-staining, non-ferrous type.
  - .7 Fabricate special fasteners as required for installation conditions.
  - .8 Mechanical fasteners and methods of attachment subject to Contract Administrator approval. Obtain Contract Administrator approval before fixing to structural steel.
- .4 Adhesive attachment:

- .1 Use self-stick adhesive foam tape to manufacturer's instructions to adequately fix sign and prevent "rocking". Keep tape maximum 1.6 mm from edges.

### **3.2 INSTALLATION, EXTERIOR ALUMINUM LETTERS**

- .1 18" (460 mm) high aluminum letters to be stud mounted onto a custom aluminum armature (by others). Refer to Section 05 50 00 – Miscellaneous Metals and drawings.

### **3.3 INSTALLATION, INTERIOR ALUMINUM LETTERS**

- .1 Mounting method for 8" (200 mm) high aluminum letters to be projected stud projected mounted into wall (1/2" projection), minimum 4 locations per letter (except for letter 'I').

### **3.4 CLEANING**

- .1 Leave signs clean. Remove debris from interior of sign boxes.
- .2 Touch up any damaged finishes.

### **3.3 SCHEDULE**

- .3 Exterior Signage
  - .1 All signage to be Arial Typeface:
    - .1 18" (460 mm) high x 6 mm thick aluminum letters reading: "EAST ELMWOOD COMMUNITY CENTRE" mounted on roof.
- .4 Interior Signage
  - .1 All signage to be Arial Typeface:
    - .1 Wall mounted on gypsum board:
      - .1 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "WASHROOM"
      - .2 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "OFFICE"
      - .3 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "MULTI-PURPOSE"
      - .4 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "CANTEEN"
    - .2 Ceiling Mounted on gypsum board:
      - .1 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "GYM"
      - .2 200 mm (8") high x 3 mm thick brushed aluminum letters reading: "GYM"
    - .3 Mounted to glass:
      - .1 200 mm (8") high vinyl letters reading: "490"
      - .2 200 mm (8") high vinyl letters reading: "490"
    - .4 Painted graphics:
      - .1 6'-0" high x 3'-0" wide painted "Male" pictogram on wall at Men's Washroom Room 114.
        - .1 Paint in accordance with Section 09 91 23 – Interior Painting.
        - .2 Artwork to be provided by Contract Administrator.

- .3 Colour to be determined by Contract Administrator.
- .2 6'-0" high x 3'-0" wide painted "Female" pictogram on wall at Women's Washroom Room 113.
  - .1 Paint in accordance with Section 09 91 23 – Interior Painting.
  - .2 Artwork to be provided by Contract Administrator.
  - .3 Colour to be determined by Contract Administrator.
- .2 Colours to be determined by Contract Administrator from manufactures full range of colours.
- .3 Refer to Section 10 14 67 – Barrier Free Signage for wall, and number plates.
- .4 Refer to Section 10 14 67 – Barrier Free Signage for accessibility decals for windows and doors.
- .5 Refer to drawings for locations and further info.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 City of Winnipeg 2010 Accessibility Design Standards.
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**1.2 SHOP DRAWINGS**

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- .2 Indicate materials, thicknesses, sizes, finishes, colours, construction details, removable and interchangeable components, mounting methods, schedule of signs.
- .3 Submit drawn-to-scale details for individually fabricated or incised lettering indicating word and letter spacing.
- .4 Submit representative sample of each type sign, sign image and mounting method.
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- .6 Submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

### **1.3 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away for public.
- .4 Use chemical hardeners that are non-toxic, biodegradable and have zero or low VOC's.
- .5 Dispose of surplus chemical and finishing materials in accordance with Federal, Provincial and Municipal regulations.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Tactile signs shall include the following:
  - .1 Letters and numbers on signs shall
    - .1 Be sans serif fonts;
    - .2 Have Arabic numbers;
    - .3 Have a width-to-height ratio between 3:5 and 1:1
    - .4 Have a stroke-width-to-height ratio between 1:5 and 1:10.
    - .5 Character height dimensions for viewing distance shall comply with Table 1.2.4.1 on page 48 of the City of Winnipeg 2010 Accessibility Design Standards.
    - .6 Characters, symbols and backgrounds of signs shall have an eggshell, matte or other glare-free finish.
    - .7 Characters and symbols shall colour contrast with their background.
    - .8 Where signs are required to be tactile, letters and numerals shall:
      - .1 Be raised at least 0.8 mm (1/32"), not sharply edged;
      - .2 Be between 16 mm (5/8" and 50 mm (2") high
      - .3 Be a sans serif front, accompanied by Grade 1 uncontracted Braille.



- .4 Pictograms shall be accompanied by an equivalent visual and tactile verbal description, placed directly below the pictogram. The border dimension of the pictogram shall be 150 mm (6") minimum in height.
- .2 Wall, door and number plates:
  - .1 Metal wall plates:
    - .1 Fabricate sign plates from brushed aluminum engraving stock, sizes as indicated.
    - .2 Sign graphics: apply by engraving.
  - .2 Interchangeable mounting: supply wall plates with approved type, semi-concealed, retaining holders that permit quick but vandal-resistant interchange of sign face. No exposed fasteners permitted. Exposed portions to match sign face.
  - .3 Fixed mounting: prepare wall plates for fixing by surface fasteners with rosette covers. Include back-up plates for fixing to uneven surfaces where required.
  - .4 Bracket mounting: fabricate brackets for wall projecting or ceiling suspended sign plates as detailed: of clear acrylic 4.8 mm thick.
- .3 Fully glazed sidelights and screens shall include the following:
  - .1 Minimum 50 mm (2") high row of decals or continuous stripe of highly contrasting colour, mounted with its centreline between 1472 mm (58") and 1525 mm (60") from the floor or ground.

### **Part 3 Execution**

#### **3.1 ERECTION**

- .1 Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door, located with their centre line at a height between 1475 mm (58") and 1525 mm (60"). Confirm mounting locations with Contract Administrator prior to installation.
- .2 Where there is no wall space to the latch side of the door, including at double-leaf doors, signs shall be placed on the nearest adjacent wall, in a location that is easy to reach and touch.
- .3 The minimum level of illumination on signs shall be 200 lux.

#### **3.2 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

#### **3.3 SCHEDULE:**

- .1 Room 100 Vestibule:
  - .1 Door D100A:

- .1 4" high sign c/w braille reading "EAST ELMWOOD COMMUNITY CENTRE" at pull side of door
- .2 Room 102 Office:
  - .1 Door D102A:
    - .1 4" high sign c/w braille reading "OFFICE" at pull side of door.
- .3 Room 104 Multi-Purpose Room:
  - .1 Door D104A:
    - .1 4" high sign c/w braille reading "MULTI-PURPOSE ROOM" at push side of door.
  - .2 Door D104F
    - .1 4" high sign c/w braille reading "KITCHEN" at push side of door.
- .4 Room 105 Kitchen:
  - .1 D104C:
    - .1 4" high sign c/w braille reading "KITCHEN" at push side of door.
  - .2 D105D:
    - .1 4" high sign c/w braille reading "KITCHEN" at push side of door.
- .5 Room 107 Vestibule:
  - .1 Door D107A:
    - .1 4" high sign c/w braille reading "EAST ELMWOOD COMMUNITY CENTRE" at pull side of door
- .6 Room 111 Gymnasium:
  - .1 Door D111A:
    - .1 4" high sign c/w braille reading "GYM" at pull side of door
  - .2 Door D111B/D111BB:
    - .1 4" high sign c/w braille reading "GYM" at pull side of door
  - .3 Door D111C:
    - .1 4" high sign c/w braille reading "EXIT" at push side of door
  - .4 Door D111D:
    - .1 4" high sign c/w braille reading "EXIT" at push side of door
- .7 Room 110 Unisex UTR:
  - .1 Door D110:
    - .1 2 - 12" high signs c/w braille, male, female and wheelchair pictograms reading "Accessible Men's/Women's Washroom".
- .8 Room 113 Women's WC:
  - .1 2 - 12" high signs c/w braille, female and wheelchair pictograms reading "Accessible Women's Washroom".
    - .1 Signs to be mounted at each side of doorway.
- .9 Room 115 Men's WC:
  - .1 2 - 12" high signs c/w braille, male and wheelchair pictograms reading "Accessible Men's Washroom".
    - .1 Signs to be mounted at each side of doorway.

- .10 Fully glazed sidelights and screens (where indicated on drawings):
  - .1 51 mm (2") high vinyl strips, mounted as indicated on drawings. Colour to be determined by Contract Administrator.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
  - .1 ASTM A 240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
  - .2 ASTM A 666 - Standard Specification for Annealed or Cold-worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
  - .3 ASTM A 743/A 743M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.
  - .4 ASTM B 86 - Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings.
  - .5 ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - .6 ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- .2 GREENGUARD Environmental Institute (GREENGUARD)
  - .1 GREENGUARD certified low emitting products.
- .3 National Fire Protection Association (NFPA)
  - .1 National Fire Protection Association 101 Life Safety Code, Latest Edition, Chapter 10
- .4 Canada Green Building Council (CaGBC)
  - .1 LEED Canada Reference Guide for Green Building Design and Construction 2009

**1.2                DESIGN CRITERIA**

- .1 Furnish, deliver and install all phenolic toilet partitions as indicated on the drawings and as required by actual conditions at the building. The phenolic toilet partitions shall include the furnishing of all necessary screws, special screws, bolts, special bolts, expansion shields and all other devices necessary for the proper installation and application, of the phenolic toilet partitions.

**1.3                SUBMITTALS**

- .1 Product Data: Manufacturer's data sheets for each type of product indicated. Include fabrication details, description of materials and finishes.
  - .1 Product Test Reports: When requested by Contract Administrator, submit documentation by qualified independent testing agency indicating compliance of products with requirements.
- .2 Shop Drawings:
  - .1 Include overall product dimensions, floor plan, elevations, sections, details, and attachments to other Work.
  - .2 Include choice of options with details.

- .3 Show fabrication and erection of compartment assemblies, to extent not fully described by manufacturer's data sheets.
- .4 Show anchorage, accessory items and finishes.
- .5 Provide location drawings for bolt-hole locations in supporting members for attachment of compartments.
- .3 Samples for Selection:
  - .1 Furnish samples of manufacturer's full range of colors for initial selection.
  - .2 Furnish scale model of compartments, including stile, shoe, door, door hardware, divider panel, and mounting brackets.
  - .3 Furnish sections showing stile anchoring and leveling devices, concealed threaded inserts, panel and stile construction and edge construction.
- 1.4 CLOSEOUT SUBMITTALS**
  - .1 Maintenance and cleaning instructions.
- 1.5 QUALITY ASSURANCE**
  - .1 Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum five [5] years' experience in the manufacture of toilet compartments.
  - .2 Installers Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum 3 years.
  - .3 Source Limitations: Obtain toilet compartment components and accessories from single manufacturer.
  - .4 Accessibility Requirements: Comply with requirements of ICC/ANSI 117.1, and with requirements of authorities having jurisdiction.
  - .5 Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    - .1 Flame-Spread Index: 30.
    - .2 Smoke-Developed Index: 110.
  - .6 Indoor Environmental Quality Certification: Provide certificate indicated that products have been certified under the following programs, or a comparable certification acceptable to The City:
    - .1 GREENGUARD Indoor Air Quality Certified.
    - .2 GREENGUARD Certified for Children and Schools.
- 1.6 DELIVERY, STORAGE, AND HANDLING**
  - .1 Do not deliver toilet compartments to Site until building is enclosed and HVAC systems are in operation.
    - .1 Deliver toilet compartments in manufacturer's original packaging.
    - .2 Store in an upright condition.

**1.7 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away for public.
- .4 Use chemical hardeners that are non-toxic, biodegradable and have zero or low VOC's.
- .5 Dispose of surplus chemical and finishing materials in accordance with Federal, Provincial and Municipal regulations.

**1.8 WARRANTY**

- .1 Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or Workmanship during the following periods:
  - .1 All hardware and mounting brackets are guaranteed to be free from defects in material and Workmanship for a period of one year from date of purchase.
  - .2 A fifteen-year limited warranty from date of purchase for solid phenolic partition panels, doors, and stiles against breakage, corrosion, delamination, and defects in factory Workmanship when materials are properly installed, then used and serviced normally.

**Part 2 Products**

**2.1 COMPONENTS/MATERIALS**

- .1 Basis of design:
  - .1 Bobrick DuraLine® Series 1081 water and fire-resistant solid phenolic toilet partitions and screens (or approved equal in accordance with B7).
  - .2 Toilet Compartments shall be floor-anchored
  - .3 National Fire Protection Association Interior Wall and Ceiling Finish Class B
  - .4 Anti-graffiti:
    - .1 Non-ghosting graffiti removal
- .2 Stiles, Panels, Doors, Screens, and Benches
  - .1 Solid phenolic material constructed of solidly fused plastic laminate with matte-finish melamine surfaces, colored face sheets, and black phenolic-resin core that are integrally bonded. Edges shall be black. Brown edges shall not be acceptable. Color and pattern as selected by Contract Administrator from Bobrick standard colors.
  - .2 Solid phenolic material shall meet National Fire Protection Association Interior Wall and Ceiling Finish Class B, Uniform Building Code Class II, ASTM E-84 Fire Resistance Standards: flame spread Index 30, smoke density development index 55.
  - .3 Finish Thickness
    - .1 Stiles and doors shall be 3/4" (19mm).

- .2 Panels and benches shall be 1/2" (13mm).
- .3 Hardware:
  - .1 All hardware to be 18-8, type-304 stainless steel with satin-finish.
  - .2 All hardware shall be concealed inside compartments with the exception of outswing doors.
  - .3 Hardware of chrome-plated "Zamak" is unacceptable.
- .4 Latch
  - .1 Sliding door latch shall be 16-gauge (1.6mm).
  - .2 Sliding door latch shall require less than 5-lb force to operate. Twisting latch operation will not be acceptable.
  - .3 Latch track shall be attached to door by flathead machine screws into factory installed threaded brass inserts.
  - .4 Latch handle shall have rubber bumper to act as door stop.
  - .5 Latch shall allow door to be lifted over 16-gauge (1.6mm) keeper for emergency access.
  - .6 Metal-to-metal connection shall withstand a direct pull of over 1,500 lb. per screw.
- .5 Hinges
  - .1 Cam shall be adjustable in the field to permit door to be fully closed or partially open when compartment is unoccupied.
  - .2 Hinges shall be attached to door and stile by theft-resistant, one-way stainless steel machine screws into factory-installed metal inserts. Fasteners secured directly into the core are not acceptable.
  - .3 Metal-to-metal connection shall withstand a direct pull of over 1,500 lb. per screw.
- .6 Clothes Hook shall be constructed of stainless steel and shall project no more than 1-1/8" (29mm) from face of door. Clothes hook shall be secured by theft-resistant, one-way stainless steel screws.
- .7 Mounting Brackets shall be constructed of stainless steel and shall be mounted inside compartment. Mounting brackets exposed on the exterior of the compartment will not be acceptable. Wall mounted urinal screen brackets shall be 11-gauge (3mm) double thickness.
- .8 Leveling Device shall be 3/16" (5mm) hot rolled steel bar; chromate-treated and zinc-plated; through-bolted to base of solid phenolic stile.
- .9 Stile Shoe shall be one-piece, 4" (102mm) high, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Top shall have 90° return to stile. Patented one-piece shoe capable of adapting to 3/4" or 1" stile thickness and capable of being fastened (by clip) to stiles starting at wall line.
- .10 Headrail (Overhead-Braced) shall be satin finish, extruded anodized aluminum (.065" / 1.65mm thick) with anti-grip profile.

## 2.2 SUBSTITUTIONS

- .1 Refer to Section B7 – Substitutes of Bid Opportunity 748-2013.

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**Part 3 Execution**

**3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

**3.2 SITE PREPARATION**

- .1 Ensure supplementary anchorage, if required, is in place.
- .2 Install necessary blocking as indicated on the manufacturers approved shop drawings.

**3.3 FIELD MEASUREMENTS**

- .1 Examine all Site conditions for correct height and spacing of blocking, plumbing fixtures and cabinet Work that may affect installation of the partitions or screens.
- .2 Take complete and accurate field dimensions of toilet partition locations.
- .3 Site Preparation: The Contractor must examine all Site conditions that would prevent the proper application and installation of Toilet Partitions. Any deviation from the approved shop drawings must be immediately identified and corrected by the Contractor, prior to the installation of the Toilet Partitions.

**3.4 INSTALLATION**

- .1 Install compartments rigidly, straight, plumb, and level and in accordance with manufacturer's installation instructions.
- .2 Installation methods shall conform to manufacturer's recommendations for backing and proper support.
- .3 Conceal evidence of drilling, cutting, and fitting to room finish.
- .4 Maintain uniform clearance at vertical edge of doors.

**3.5 ADJUSTING**

- .1 Adjust hardware for proper operation after installation.
- .2 Set hinge cam on in-swinging doors to hold doors open when unlatched.
- .3 Set hinge cam on out-swinging doors to hold unlatched doors in closed position.
- .4 Clean exposed surfaces of compartments, hardware, and fittings.
- .5 Lubricate hardware and other moving parts.

**3.6 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.



- .2 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
- .3 Clean aluminum with damp rag and approved non-abrasive cleaner.
- .4 Clean and polish hardware and stainless components.
- .5 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 American Society for Testing and Materials (ASTM)
  - .1 ASTM A167-99, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
  - .2 ASTM A653/A653M-99, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - .3 ASTM F 2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use.
  - .4 ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- .2 American National Standards Institute (ANSI)
  - .5 ANSI A117.1 - Accessible and Usable Building and Facilities.
  - .6 ANSI Z535.4 - Product Safety Signs and Labels.
- .3 Canadian General Standards Board (CGSB)
  - .7 CAN/CGSB-12.5, Mirrors, Silvered.
- .4 City of Winnipeg
  - .8 2010 City of Winnipeg Accessibility Design Standards (WADS)
- .5 Canada Green Building Council (CaGBC)
  - .1 LEED Canada Reference Guide for Green Building Design and Construction 2009

**1.2 PERFORMANCE REQUIREMENTS**

- .1 Electric hand dryers:
  - .1 Operating protocol: Hand drying shall be accomplished by means of warm air, which simultaneously loosens and breaks up water droplets on the surface of the hands, and evaporates the liquid water.
    - .1 Air volume in cubic feet per minute (CFM): 150
    - .2 Heat:
      - .1 Minimum air temperature at air outlet: 136 degrees F [58 degrees C] when room temperature is 68 degrees F [20 degrees C].
      - .2 Minimum air temperature at average hand position of 4"[100 mm] below air outlet: 136 degrees F [56 degrees C] when room temperature is 68 degrees F [20 degrees C].
  - .2 Drying time required to remove 5 grams of water: approximately 30 seconds
  - .3 Moisture remaining on hands at end of drying cycle: maximum 0.2 grams.

**1.3 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.

- .2 Indicate size and description of components, base material, surface finish inside and out, hardware and locks, attachment devices, description of rough-in-frame, building-in details of anchors for grab bars.

#### **1.4 QUALITY ASSURANCE**

- .1 Electric hand dryers:
  - .1 Manufacturer: Company specializing in manufacturing, distribution and servicing of electric hand dryers.
  - .2 Hand dryers shall be certified by Canadian Standards Association (CSA) to both US and Canadian standards and shall bear the CSA c/us mark.
  - .3 Hand dryers shall be provided and installed in compliance with WADS.

#### **1.5 CLOSEOUT SUBMITTALS**

- .1 Provide maintenance data for toilet and bath accessories for incorporation into manual.

#### **1.6 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations. Protect from damage.

#### **1.7 EXTRA MATERIALS**

- .1 Provide special tools required for accessing, assembly/disassembly or removal for toilet and bath accessories in accordance with requirements specified in Section 01 33 00 – Submittal Procedures.
- .2 Deliver special tools to The City.

#### **1.2 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away for public.
- .4 Use chemical hardeners that are non-toxic, biodegradable and have zero or low VOC's.
- .5 Dispose of surplus chemical and finishing materials in accordance with Federal, Provincial and Municipal regulations.

#### **1.8 WARRANTY**

- .1 Manufacturer's Warranty for Washroom Accessories:
  - .1 Manufacturer's standard 1 year warranty for materials and Workmanship.
- .2 Manufacturer's Warranty for Baby Change Tables:
  - .1 Manufacturer's standard 5 year warranty for materials and Workmanship.
- .3 Manufacturer's Warranty for Electric Hand Dryers:

- .1 Manufacturer's standard 10 year warranty for hand dryer to be free of manufacturing defects.

**Part 2 Products**

**2.1 MATERIALS**

- .1 Sheet steel: commercial quality to ASTM A653/A653M with ZF001 designation zinc coating.
- .2 Stainless steel sheet metal: to ASTM A167, Type 304 with BA finish.
- .3 Stainless steel tubing: Type 304, commercial grade, seamless welded, 1.2 mm wall thickness.
- .4 Fasteners: concealed screws and bolts hot dip galvanized, exposed fasteners to match face of unit. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

**2.2 COMPONENTS**

- .1 Surface-mounted toilet tissue dispenser:
  - .1 Supplied by the City, installed by Contractor.
- .2 Surface-mounted paper towel dispensers:
  - .1 Supplied by the City, installed by Contractor.
- .3 Surface-mounted soap dispenser:
  - .1 Supplied by the City, installed by Contractor.
- .4 Surface-Mounted Sanitary Napkin Disposal:
  - .1 Bobrick ConturaSeries® Model B-270 (or approved equal in accordance with B7):
    - .1 Container: 18-8 S, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish.
    - .2 Integral finger depression for opening cover.
    - .3 Front of container has same degree of arc as front of cover and other Bobrick ConturaSeries washroom accessories.
    - .4 Radius on side edges of container match corners and edges of cover and other ConturaSeries accessories.
    - .5 Cover: 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction.
    - .6 Front of cover has same degree of arc as front of container and other Bobrick Contura Series washroom accessories.
    - .7 Radius on corners and edges of cover match side edges of container and other Contura Series accessories.
    - .8 Secured to container with a full-length stainless steel piano-hinge.
    - .9 Quantity: 7
- .5 Mirrors:
  - .1 Room 110 - UTR:

- .1 Bobrick Series B-165 – 2448 (or approved equal in accordance with B7):
  - .1 Type-430 stainless steel, 1/2" x 1/2" x 3/8" (13 x 13 x 9.5mm) channel with 1/4" (6mm) return at rear with bright polished finish.
  - .2 One piece frame with 90 degree mitered corners.
  - .3 Galvanized steel back has integral horizontal hanging brackets near the top for hanging the mirror and near the bottom to prevent the bottom of the mirror from pulling away from the wall.
  - .4 Locking devices secure mirror to concealed wall hanger.
  - .5 Quantity: 1
- .2 Rooms 113 and 114 – Men's and Women's WC's:
  - .1 In accordance with Section 08 80 00 – Glazing.
- .6 Surface-mounted stainless steel shelf:
  - .1 Room 110 - UTR:
    - .1 Bobrick B-295 Series, 5" deep x 16" wide (or approved equal in accordance with B7):
      - .1 Surface-mounted shelf shall be constructed of type-304 stainless steel with satin-finish.
      - .2 Mounting brackets shall be 16-gauge (1.6mm) and shall be welded to shelf.
      - .3 Shelf shall be 18-gauge (1.2mm) and have 3/4" (19mm) return edges. Front edge shall be hemmed.
      - .4 Quantity: 1
- .7 Stainless steel grab bars, 1-1/2" (38mm) diameter, with snap flange cover:
  - .1 Bobrick Series B-5806 (or approved equal in accordance with B7):
    - .1 Grab bar shall be type-304 stainless steel with satin-finish.
    - .2 Grab bar shall have 18-gauge (1.2mm) wall thickness and 1-1/4" (32mm) outside diameter.
    - .3 Clearance between the grab bar and wall shall be 1-1/2" (38mm).
    - .4 Concealed mounting flanges shall be 1/8" (3mm) thick stainless steel plate, 2" x 3- 1/8" (50 x 80mm), and equipped with two screw holes for attachment to wall.
    - .5 Flange covers shall be 22-gauge (0.8mm) stainless steel, 3-1/4" (85mm) diameter, and shall snap over mounting flanges to conceal mounting screws and/or Wing fasteners.
    - .6 Ends of grab bar shall pass through concealed mounting flanges and be heliarc welded to form one structural unit.
    - .7 Grab bars shall comply with barrier-free accessibility guidelines (WADS) for structural strength.
    - .8 Quantities:
      - .1 8 x 610 mm (2'-0") long.
      - .2 3 x 914 mm (3'-0") long.
- .8 Floor standing large capacity waste receptacle:
  - .1 Bobrick Series B-2400 (or approved equal in accordance with B7):
    - .1 Floor-standing waste receptacle shall be type-304, 16-gauge (1.6mm) stainless steel with satin finish.
    - .2 One-piece funnel top shall have 8-1/4" (210mm) diameter opening.

- .3 Bottom of receptacle shall be recessed 1/2" (13mm) and equipped with four heavy duty rubber feet that elevate receptacle slightly off floor.
- .4 Removable, rigid plastic liner shall have a wire handle and a minimum capacity of 33-gal. (125-L).
- .5 Quantity: 3
- .9 Surface-mounted hat and coat hook:
  - .1 Bobrick Model B-6827, satin (or approved equal in accordance with B7):
    - .1 Surface-mounted hat and coat hook shall be constructed of type-304 stainless steel with (select one: bright polish or satin) finish and shall project 3-1/16" (80mm) from wall.
    - .2 Flange and support arm shall be 22-gauge (0.8mm) and equipped with a concealed, 16-gauge (1.6mm) mounting bracket that is secured to a concealed, 16-gauge (1.6mm) wall plate with a stainless steel set screw.
    - .3 Hook shall be 12-gauge (2.8mm) and shall be welded to support arm.
    - .4 Quantity: 3
- .10 Surface-Mounted Horizontal Design Baby Changing Stations:
  - .1 Koala Kare Model KB200-00 (or approved equal in accordance with B7):
    - .1 Materials: Injection-molded polypropylene.
    - .2 Operation: Concealed pneumatic cylinder providing controlled, slow opening and closing of the changing station bed.
    - .3 Hinge Mechanism: Reinforced full length steel-on-steel hinge.
    - .4 Changing Surface: Contoured, concave and smooth, 450 sq. in.
    - .5 Safety Straps: Replaceable, snap-lock, nylon protective holding straps.
    - .6 Performance: When mounted to specification, unit has been tested to 300 lbs and will deflect less than 1 degree from 90 degrees with a 200 lb static load placed in the center of the changing surface.
    - .7 Mounting: Concealed 11 gauge plated steel mounting chassis with 16 inch centers and 6 mounting points the top 2 mounting points feature keyholes for ease of installation units include mounting hardware.
    - .8 Features: No hinge structure exposed on interior or exterior surfaces; two bag hooks; locking built-in dual cavity liner dispenser with 50 liner capacity supplied with 2 keys that are keyed alike to Bobrick Washroom Accessories.
    - .9 Instruction Graphics: Universal instruction graphics and safety messages in multiple languages.
    - .10 Optional Braille Label: Yes.
    - .11 Quantity: 2
- .11 Electric Hand Dryers:
  - .1 Dimplex, ONE Warm air, electric hand dryer; as manufactured by Dimplex North America (or approved equal in accordance with B7):
    - .1 Model: D20001WH
      - .1 Colour: White
      - .2 Nominal size: 263 mm W x 349 mm H x 100 mm D (10.375" W x 13.75" H x 4" D)
      - .3 Wattage: 1450W at 6.3A (230 VAC)
      - .4 Volts Hz: 115-230 (50-60 Hz)

- .5 Weight: 20 pounds (9 kg.)
- .6 Air Volume: 150 CFM
- .7 Noise: 55 dB
- .8 Discharged Air Temperature: 136°F / 58°C at ambient temperature of 68°F / 20°C
- .9 Sensor: Solid state infra-red, self-calibrating
- .10 Controls & wiring: Automatic resetting thermostat with cutout when airflow is restricted. Infrared sensor cutout two seconds after hand removal, and 60 seconds after initiating drying.
- .11 Quantity: 3
- .12 Mop and broom holder:
  - .1 Bobrick Model B-223, 36" (915mm) with 4 holders (or approved equal in accordance with B7):
    - .1 Mop and broom holder shall be constructed of type-304 stainless steel with satin finish.
    - .2 Shelf shall be 8" (203mm) deep and have 1-1/2" (38mm) return for maximum rigidity.
    - .3 Unit shall be equipped with replaceable, spring-loaded rubber cams that will securely hold handles from 7/8" to 1-1/4" (22 to 32mm) in diameter.
    - .4 Quantity: 1
- .13 Accessories:
  - .1 Fasteners: concealed screws and bolts hot dip galvanized, exposed fasteners to match face of unit. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

## 2.3 SUBSTITUTIONS

- .1 Refer to Section B7 – Substitutes of Bid Opportunity 748-2013.

## 2.4 FABRICATION

- .1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.
- .3 Brake form sheet metal Work with 1.5 mm radius bends.
- .4 Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .5 Back paint components where contact is made with building finishes to prevent electrolysis.
- .6 Hot dip galvanize concealed ferrous metal anchors and fastening devices to CSA G164.
- .7 Shop assemble components and package complete with anchors and fittings.
- .8 Deliver inserts and rough-in frames to job Site at appropriate time for building-in. Provide templates, details and instructions for building in anchors and inserts.

- .9 Provide steel anchor plates and components for installation on studding and building framing.

## **2.5 FINISHES**

- .1 Chrome and nickel plating: to ASTM B456, satin or polished finish.
- .2 Manufacturers brand names on face of units not acceptable.

## **Part 3 Execution**

### **3.1 INSTALLATION – WASHROOM ACCESSORIES**

- .1 Install in accordance with manufacturer's written instructions.
- .2 Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
  - .1 Verify blocking has been installed properly.
  - .2 Verify location does not interfere with door swings or use of fixtures.
  - .3 Comply with manufacturer's recommendations for backing and proper support.
  - .4 Use fasteners and anchors suitable for substrate and project conditions
  - .5 Install units rigid, straight, plumb, and level, in accordance with manufacturer's installation instructions and approved shop drawings.
  - .6 Conceal evidence of drilling, cutting, and fitting to room finish.
  - .7 Test for proper operation.
- .3 Install and secure accessories rigidly in place as follows:
  - .1 Stud walls: install steel back-plate to stud prior to plaster or drywall finish. Provide plate with threaded studs or plugs.
  - .2 Hollow masonry units or existing plaster/drywall: use toggle bolts drilled into cell/wall cavity.
  - .3 Solid masonry or concrete: use bolt with lead expansion sleeve set into drilled hole.
  - .4 Toilet/shower compartments: use male/female through bolts.
- .4 Install grab bars on built-in anchors provided by bar manufacturer.
- .5 Use tamper proof screws/bolts for fasteners.
- .6 Install mirrors in accordance with Section 08 80 00 - Glazing.

### **3.2 INSTALLATION – BABY CHANGE TABLES**

- .1 Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
  - .1 Verify blocking has been installed properly.
  - .2 Verify location does not interfere with door swings or use of fixtures.
  - .3 Use fasteners and anchors suitable for substrate and project conditions.
  - .4 Install units at location and height indicated on the Drawings.
  - .5 Install units level, plumb and in proper relationship with adjacent construction.



- .6 Adjust for proper operation.

### **3.3 INSTALLATION – HAND DRYERS**

- .1 Coordinate requirements for blocking to ensure adequate means for support and installation of hand dryers.
- .2 Coordinate requirements for power supply, conduit, disconnect switches, and wiring.
- .3 Comply with manufacturer's installation instructions and approved shop drawings.
- .4 Mount dryers at heights indicated on Drawings.
- .5 Install dryers securely to supporting substrate so that fixtures are level and aligned with each other. Use type and length of fastener as recommended by manufacturer for type of substrate.
- .6 Install electrical wiring in accordance with manufacturer's instructions.

### **3.4 TESTING AND CLEANING**

- .1 Proof test grab bars to manufacturers specifications.
  - .1 Provide certificate of test results.
- .2 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .3 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .5 Hand dryers:
  - .1 Inspect installation to verify secure and proper mounting. Test each dryer to verify operation, control functions, and performance. Correct deficiencies.
  - .2 Clean surfaces and wash with mild soap.
  - .3 Protect dryers from damage from subsequent construction operations. If damage occurs remove and replace damaged units.

### **3.5 SCHEDULE**

- .1 Locate accessories where indicated.

### **3.6 COMMISSIONING**

- .1 Instruct the City on cleaning and maintenance.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI/NFPA 10-[1998], Portable Fire Extinguishers.
- .2 Underwriters' Laboratories of Canada (ULC)
  - .1 CAN/ULC-S508-[M90(R1995)], Rating and Fire Testing of Fire Extinguishers and Class "D" Extinguishing Media.
- .3 Canada Green Building Council (CaGBC)
  - .1 LEED Canada Reference Guide for Green Building Design and Construction 2009

**1.2                SHOP DRAWINGS AND PRODUCT DATA**

- .1 Submit shop drawings and product data in accordance with Section 01 33 00 - Submittal Procedures.

**1.3                CLOSEOUT SUBMITTALS**

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

**1.4                WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely for disposal away for public.
- .4 Use chemical hardeners that are non-toxic, biodegradable and have zero or low VOC's.
- .5 Dispose of surplus chemical and finishing materials in accordance with Federal, Provincial and Municipal regulations.

**Part 2            Products**

**2.1                MULTI-PURPOSE DRY CHEMICAL EXTINGUISHERS:**

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection. Locate as indicated on drawings.
  - .1 Size: 4.5 kg.

**2.2                WET CHEMICAL EXTINGUISHERS:**

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for K class protection. Locate as indicated on drawings.

- .1 Size: 6 L/6.4 kg.

### **2.3 EXTINGUISHER BRACKETS**

- .1 Type recommended by extinguisher manufacturer.

### **2.4 CABINETS**

- .1 Fully recessed and semi-recessed types as indicated, constructed of 1.6 mm thick steel, 180° opening door of 2.5 mm thick steel with latching device. Locate recessed cabinets as indicated in drawings.
- .2 Cabinet to maintain fire resistive rating of construction in which they occur.
- .3 Cabinet door: with 5 mm full glass panel.
- .4 Finish: Tub: prime coated.
  - .1 Door and frame: No.4 satin finish stainless steel.

### **2.5 IDENTIFICATION**

- .1 Identify extinguishers in accordance with recommendations of [ANSI/NFPA 10] [CAN/ULC-S508].
- .2 Attach bilingual tag or label to extinguishers, indicating month and year of installation. Provide space for service dates.

## **Part 3 Execution**

### **3.1 INSTALLATION**

- .1 Install or mount extinguishers in cabinets or on brackets as indicated.

**END OF SECTION**