1 GENERAL

1.01 RELATED REQUIREMENTS

.1 Section 05 50 00 – Metal Fabrications.

.2 Section 06 10 00 - Rough Carpentry.

.3 Section 06 40 23.10 – Wood Ceilings.

.4 Section 09 21 16 - Gypsum Board Assemblies.

1.02 REFERENCE STANDARDS

.1 American National Standards Institute (ANSI).
- .1 ANSI Z97.1 2009, Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test

.2 ASTM International (ASTM)
- .1 ASTM E84-10b, Standard Test Method for Surface Burning Characteristics of Building Materials.
- .2 ASTM E90 04, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- .3 ASTM E336 07, Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings
- .4 ASTM E413-10, Classification for Rating Sound Insulation.
- .5 ASTM E557-12, Standard Guide for Architectural Design and Installation Practices for Sound Isolation between Spaces Separated by Operable Partitions.

.3 Underwriters Laboratories Canada (ULC)
- .1 CAN/ULC S102 07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.03 ADMINISTRATIVE REQUIREMENTS

.1 Coordination:
- .1 Floor Flatness: Coordinate manufacturer’s requirements for floor flatness and level required to obtain airtight contact between acoustic seal and floor immediately under the folding panel partition with other Sections relating to floor preparation and installation.

.2 Support Structure: Coordinate manufacturer's requirements for size and configuration of miscellaneous structural support beam required for attachment of track suspension system.

.2 Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section, with contractor's representative and Consultant in accordance with Section 01 31 19 – Project Meetings to:
.1 Verify project requirements.
.2 Review installation conditions.
.3 Coordinate with other building trades.
.4 Review manufacturer's installation instructions and warranty.

1.04 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:
.1 Submit manufacturer's instructions, printed product literature and data sheets for folding panel partitions and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:
.1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Prince Edward Island, Canada.
.1 Indicate installation requirements including dimensions, head and jamb conditions, track layout, stacking arrangement, switching, hardware, finish and colour, operating mechanism, electrical requirements and location.

.4 Samples:
.1 Submit duplicate 300 x 300 mm samples of partition finish for each colour selected.

.5 Quality assurance/control submittals: submit following in accordance with Section 01 45 00 - Quality Control.
.1 Test reports: submit certified test reports for folding panel partitions from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.

.2 Submit test data indicating compliance with design requirements regarding sound transmission and fire hazard classification.
.3 Submit acoustical test data to ASTM E 90 and ensure construction details and weight are provided.
.4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.05 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for folding panel partitions for incorporation into manual.

1.06 QUALITY ASSURANCE

.1 Single Source Responsibility: Manufacturer shall be responsible for all components it supplies for the complete folding door system.

.2 Regulatory Requirements: Provide materials and assemblies tested and labelled indicating flame spread and smoke developed ratings acceptable to the Authority Having Jurisdiction.

.3 Installer Qualifications: Use installers that are trained and approved by manufacturer of installed materials having a minimum of 5 years' of experience in work of a similar scope and complexity as work required for Project.

1.07 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:
.1 Store materials off indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
.2 Store and protect specified materials from damage.

.3 Replace defective or damaged materials with new.

1.08 WARRANTY

.1 Provide manufacturer's standard warranty against defects in materials and workmanship.
.1 Warranty Period: Provide ten years for rollers; 3-years for all other components.

2 PRODUCTS

2.01 DESIGN REQUIREMENTS

.1 Design and fabricate folding partitions with minimum STC of 54 tested to ASTM E90.

.2 Use vinyl fabric for covering when tested to CAN/ULC S102 with maximum:
.1 Flame spread: 25.
.2 Fuel contributed: 35.
.3 Smoke developed: 50.

2.02 ASSEMBLY OVERVIEW

.1 Nominal panel thickness: 4.15"(108 mm).

.2 Continuously hinged electric operation.

.3 Roll formed and welded 16 gauge steel frame.

.4 Finish: Heavy-duty vinyl.

.5 Skin/Face: steel.

.6 Hanging weight: approximately 9.5 lbs./square foot.

.7 Pass Door: single matching construction.

.8 Top/Bottom Seals:
.1 Top: automatic operable top seal.
.2 Bottom: operable seal.

2.03 OPERATION

.1 Track System: Series of continuously hinged flat panels, electrically operated, top supported with operable floor seals and automatic top seals.

.2 Final Closure: Electric expanding jamb sealing to panel edge. Manual closures or side seal closures not permitted. Floor track not required or permitted.

.3 Partition shall be operated by two push button control stations wired in series and located on opposite sides of the partition. Control stations shall be activated by key switch at stack end of partition. Motor unit shall be reversible, continuous duty, and class A insulated. Motor unit shall have NEMA MG 1 service factor, high starting torque, thermal overload protection, and open/drip proof enclosure. Motor assembly shall have wiring compliant with NFPA 70, 24 volt controls, compliant with UL 508A, and speed of 28 feet/minute. The drive unit motor shall be equipped with outboard limit switches to prevent over-extension. A positive chain drive attached to the lead panel shall pull the partition across the opening. Cable, belt, or other friction type drives will not be accepted.

.4 Electric motor shall be 208/230-volt, 3-phase, 1-1/2 HP, 4.5/4.3 FLA.

2.04 PANEL CONSTRUCTION

.1 Nominal 4-1/4-inch (108 mm) thick panels in manufacturer’s standard 51-inch (1295 mm) widths. All panel horizontal and vertical framing members fabricated from minimum 16-gauge formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.

.2 Panel Skin: Roll-formed steel wrapping around panel edge. Panel skins shall be lock formed and welded directly to the frame for unitized construction. Acoustical ratings of panels with this construction: 54 STC.

.3 Hinges for Pass Doors, and Pocket Doors shall be invisible laminated hinge with anti-friction segments mounted between each heat treated link. Hinge to be attached directly to panel frame. Welded internal hinge bracket shall support the hinge and allow for adjustment of hinge plates. Concealed hinges mounted into panel edge or vertical astragal are not acceptable.

.4 Panel Trim: No vertical or horizontal trim required or allowed on edges of panels; minimal groove appearance at panel joints.

.5 Panel Weight: 54 STC, approximately 9.5 lbs./square foot.

2.05 PANEL FINISH

.1 Panel face finish shall be Reinforced heavy-duty vinyl with woven backing weighing not less than 30 ounces per lineal yard. Vinyl colour to be selected by Departmental Representative from manufacturer’s standard range.

.2 Panel trim: No exposed panel trim required or allowed, hardware to be of one consistent dark bronze colour.

2.06 SOUND SEALS

.1 Vertical Interlocking Sound Seals between panels: Roll-formed steel astragals, with tongue and groove configuration in each panel edge. Aluminum astragals or rigid plastic astragals are not acceptable.

.2 Horizontal Top Seals shall be automatic operable top seals, manually operated operable top seals and/or fixed seals are not required or permitted.

.3 Horizontal Bottom Seals shall be continuous contact operable seals providing nominal 2-inch (51 mm) operating clearance within operating range of plus 1/2-inch (13 mm) to minus 1-1/2-inch (38 mm) and shall provide continuous floor contact as panels are positioned with no need for tools or cranks.

2.07 SUSPENSION SYSTEM

.1 Suspension Tracks: Minimum 0.31-inch (8 mm) roll-formed steel. Track shall be supported by adjustable steel hanger brackets connected to structural support by pairs of 5/8-inch (16 mm) diameter threaded rods. Brackets must support the load bearing surface of the track.

.1 Exposed track soffit: Steel, removable for service and maintenance, attached to track bracket without exposed fasteners, and pre-painted off-white.

.2 Carriers: All-steel trolleys with steel tired ball bearing wheels.

2.08 ACCESSORIES

.1 Single Pass Door:
.1 Matching pass door same thickness and appearance as the panels. ADA-compliant pass door to be trimless and equipped with friction latch and flush pulls for panic operation. No threshold will be permitted .
.2 Hardware: Lever handles both sides of door, automatic door closer, self-illuminated exit signs.

3 EXECUTION

3.01 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for folding panel partitions installation in accordance with manufacturer's written instructions.
.1 Visually inspect substrate in presence of Departmental Representative.
.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
.3 Proceed with installation only after unacceptable conditions have been remedied. Commencement of work means acceptance of conditions.

3.02 INSTALLATION

.1 Comply with ASTM E557, operable partition manufacturer’s written installation instructions, Drawings and approved Shop Drawings.

.2 Install operable partitions and accessories after other finishing operations, including painting have been completed.

.3 Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.

.4 Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

.5 Secure and level track.

.6 Touch-up damaged finishes, repair damage to partitions to match original finish.

.7 Clean folding partition system and protect from damage.

.8 Adjust and leave partitions in smooth operating condition.

3.03 FIELD QUALITY CONTROL

.1 Site Tests:
.1 Acoustic field testing: have field sound performance certified by independent acoustical consultant in accordance with ASTM E336.

3.04 EXAMINATION AND ADJUSTING

.1 Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

.2 Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

3.05 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.06 DEMONSTRATION

.1 Demonstrate proper operation and maintenance procedures to Departmental Representative's designated attendees.

.2 Provide Operation and Maintenance Manual to Departmental Representative.

END OF SECTION

1 GENERAL

1.01 RELATED REQUIREMENTS

.1 Section 07 92 00 – Joint Sealants.

.2 Section 09 21 16 – Gypsum Board Assemblies.

.3 Section 09 91 00 – Painting.

1.02 REFERENCE STANDARDS

.1 ASTM International
- .1 ASTM A240/A240M-16, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- .2 ASTM D256-10e1, Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
- .3 ASTM D543-14, Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents.
- .4 ASTM D635-14, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
- .5 ASTM D1784-11 Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- .6 ASTM D2583-13a, Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- .7 ASTM D5319-12, Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels.
- .8 ASTM D5420-16, Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact).
- .9 ASTM E84-16, Standard Test Method for Surface Burning Characteristics of Building Materials.

.2 Underwriters Laboratories
- .1 UL 2818(2013), GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings.

.3 Underwriters Laboratories of Canada
- .1 CAN/ULC S102(2011), Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:
  .1 Submit manufacturer's installation and storage instructions, printed product literature and technical datasheets for specified products, and include product characteristics, performance criteria, physical size, finish and limitations.
  .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC's for material as follows:
    .1 Caulking materials during application and curing.
    .2 Adhesives.

.3 Installation Drawings:
  .1 Indicate on drawings large scale details, materials, finishes, dimensions, anchorage and assembly.

.4 Certificates: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

.5 Test and Evaluation Reports: Submit reports showing compliance with specified performance characteristics and physical properties.

.6 Warranty: Manufacturer’s Warranty: Submit, for Departmental Representative’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to, and not a limitation of, other rights available under the laws of Canada and Prince Edward Island.

.7 Manufacturer's Project References: Submit manufacturer's list of successfully completed protective plastic panel projects, including project name and location, name of Departmental Representative, and type and quantity of protective plastic panels furnished.

.8 Installer's Project References: Submit installer's list of successfully completed protective plastic panel projects, including project name and location, name of Departmental Representative, and type and quantity of protective plastic panels installed.

1.04 QUALITY ASSURANCE

.1 Manufacturer's Qualifications: Manufacturer regularly engaged, for a minimum of 10 years, in the manufacturing of protective plastic panels of similar type to that specified.

.2 Installer's Qualifications:
- .1 Installer regularly engaged, for a minimum of 5 years, in installation of protective plastic panels of similar type to that specified.
- .2 Employ persons trained for installation of protective plastic panels.

.3 Surface-Burning Characteristics: Determined by testing identical products according to CAN/ULC S102 by a testing agency acceptable to authorities having jurisdiction.
- .1 Flame-Spread Index: 25, equal to or less.
- .2 Smoke-Developed Index: 450, equal to or less.

.4 Mock-ups:
- .1 Install at Project site a mock-up using acceptable products and manufacturer-approved installation methods.
- .2 Construct mock-up at location determined by Departmental Representative.
- .3 Obtain Departmental Representative approval and acceptance of finish, color, texture, pattern, trim, fasteners, and quality of installation
- .4 Mock-Up Size: full project height, full panel width, 2 panels demonstrating inside or outside corner treatment and attachment to substrate.
- .5 Maintain mock-up during construction for quality comparison.
- .6 Mock-up may be incorporated into final construction upon Departmental Representative approval.

.5 Test Reports:
- .1 Submit certified test reports showing compliance with specified performance characteristics and physical properties.

.6 Certificates:
- .1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.05 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:
- .1 Store and handle materials in accordance with manufacturer's instructions.
- .2 Keep materials in manufacturer's original, unopened containers and packaging until installation.
- .3 Store materials in clean, dry area indoors at temperature and humidity conditions in accordance with manufacturer's instructions.
- .4 Store materials on flat, level surface, raised above floor, with adequate support to prevent sagging.
- .5 Store materials out of direct sunlight.
- .6 Protect materials and finish during storage, handling, and installation to prevent damage.

1.06 JOB CONDITIONS

.1 Do Not Begin Installation Until:
- .1 Building is enclosed.
- .2 Permanent heating and cooling equipment is in operation.
- .3 Residual moisture from plaster, concrete, or terrazzo has dissipated.

.2 During installation and within 48 hours before installation, maintain ambient temperature and relative humidity within limits required by type of plastic protective panel adhesive used and adhesive manufacturer's instructions

1.07 WARRANTY

.1 Contractor agrees to correct any deficiencies of labour or material found in the Work performed for a period of 2-years from date of Substantial Performance.

.2 Provide manufacturer’s 20-year warranty, commencing date of Substantial Performance.

2 PRODUCTS

2.01 SOURCE QUALITY CONTROL

.1 Source Quality: Obtain wall products from a single manufacturer, either by direct supply or combination of direct supply and factory recommendation (recommendations shall be in writing and signed by factory-authorized signing authority).

2.02 WALL PANEL MATERIALS

.1 Types: FRP or 100% PVCu.

.2 Approvals and Compliance:
- .1 USDA/FDA compliant.
- .2 Meets or surpasses hygienic standards of USP 797.
- .3 VOC emissions: to CA 01350, pass.
- .4 Impact Strength, ASTM D5420: ≥ 160 inch-pounds.

.3 Dimensions: ≥ 2.3 mm thick, 1220 mm x 2440 mm.

.4 Texture: smooth, or pebbled embossed texture.

.5 Fire Rating: Class I/A.

.6 Colour: standard white, or as otherwise selected by Departmental Representative from manufacturer’s full range.

2.03 ACCESSORIES

.1 Panel manufacturer’s supplied or recommended joint strips, cut-tile transition strips, start and edge trim, polyurethane adhesive, caulking and mastic compounds and tools, and stainless steel accessories (stainless steel corner protector 3 inch x 3 inch, brushed finish, grain vertical).

.2 Welding rods: panel manufacturer’s supplied or recommended weld rod.

.3 Panel Seam Sealant: panel manufacturer’s white, 2-part urethane sealant, as recommended by panel manufacturer; VOC Content: 0.0 g/L; also refer to Section 07 92 00 for perimeter joint sealants.

.4 Rivets: Nylon drive rivets supplied by panel manufacturer, colour to match panels.

3 EXECUTION

3.01 EXAMINATION

.1 Examine areas to receive panels. Ensure finish painting Work at walls and Work above panel installation locations has been completed. Paint should extend slightly behind panels s that panels will overlap painted surfaces.

.2 Examine Substrate Surfaces to Determine:
  .1 Corners: Plumb and straight.
  .2 Surfaces: Smooth, sound, and uniform.
  .3 Nails or Screw Fasteners: Countersunk.
  .4 Joints and Cracks: Filled flush and smooth with adjoining surfaces.

.3 Notify Departmental Representative of conditions that would adversely affect installation or subsequent use.

.4 Do not begin preparation or installation until unacceptable conditions are corrected

3.02 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.

3.03 PREPARATION

.1 Clean substrates to remove substances that could impair bond of adhesive, including oil, grease, dirt, dust, or other contaminates.

.2 Pre-condition panels by unpacking and placing in installation space a minimum of 24 hours before installation.

.3 Lay out panels before beginning installation.
  .1 Locate panel joints to provide equal panel widths at ends of walls.
  .2 Locate panel joints to provide trimmed panels at corners a minimum of 300 mm wide.

.4 Treat absorbent or porous substrates with manufacturer’s recommended primer, applied to surface minimum 12 hours prior to panel installation.

.5 All electrical switches, power points etc., shall be in a first fix / installation state; if not found in this state, notify Departmental Representative. All electrical equipment shall only be moved or altered by a qualified electrician.

.6 All plumbing should have pipe-work removed to a first fix or installation state and “tails” left protruding from the substrate; if not found in this state, notify Departmental Representative.. Drill panels and slide over the pipe tails. All holes shall be drilled 1/8” (3mm) oversize to allow for expansion, then sealed with manufacturer’s recommended caulking. Plumbing work shall be done by a qualified plumber.

.7 Hot pipes and steam pipes shall be insulated and a 1/8” to 1/4” (3-6mm) expansion gap shall be created when installing panels around these pipes, then sealed with manufacturer’s recommended sealant.

.8 All pipes, fixing bolts, etc. extending through the panels shall have a minimum 1/8” (3mm) expansion gap and be sealed using manufacturer’s recommended sealant.

.9 If fitting to door frames, place frames prior to installation of panels.

.10 Complete any painting that may come in contact with panels prior to panel installation. Paint to be dry and past initial set before commencing panel installation.

3.04 INSTALLATION

.1 Install panels in accordance with manufacturer's printed installation guide at locations indicated on the Drawings, plumb, level, square, flat, and in proper alignment. Installation methods and materials shall meet panel manufacturer’s warranty conditions and requirements.

.2 Install panels to be water-resistant and washable, and with manufacturer's recommended gap for panel field and corner joints.

3.05 ADJUSTING

.1 Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Departmental Representative.

.2 Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Departmental Representative.

3.06 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
.1 Leave Work area clean at end of each day.

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

.3 Clean surfaces after installation using manufacturer's written recommended cleaning procedures.

.4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

.5 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.6 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.07 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by wall and corner guards installation.

END OF SECTION

1 GENERAL

1.01 RELATED REQUIREMENTS

.1 Section 06 10 00 – Rough Carpentry.

.2 Section 09 21 16 – Gypsum Board Assemblies.

1.02 REFERENCE STANDARDS

.1 ASTM International
- .1 ASTM A167-99(2009), Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- .2 ASTM B456-03, Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
- .3 ASTM A653/A653M-13, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .4 ASTM A924/A924M-13, Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- .5 ASTM C1503-08, Standard Specification for Silvered Flat Glass Mirror.

.2 CSA International
- .1 CAN/CSA B651-12, Accessible Design for the Built Environment.
- .2 CAN/CSAG164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:
- .1 Provide manufacturer's printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:
.1 Submit drawings indicating 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.
.2 Shop drawings for grab bars, building-in details, and attachment to structure shall be designed, signed and sealed by a structural engineer licensed to practice in the Province of Prince Edward Island. The installed grab bars shall be able to withstand a minimum downward pull of 2.2 kN. Shop Drawings to include engineering calculations.

.4 Samples:
.1 Submit samples for review and acceptance.
.2 Samples will be returned for inclusion into work.

1.04 CLOSEOUT SUBMITTALS

.1 Provide maintenance data for toilet and bath accessories for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
.1 Include list of sources for disposable supplies, replacement parts and service recommendations.

1.05 MAINTENANCE MATERIAL SUBMITTALS

.1 Tools:
.1 Provide special tools required for assembly, disassembly or removal for toilet and bath accessories in accordance with requirements specified in Section 01 78 00 - Closeout Submittals.
.2 Deliver special tools to Departmental Representative.

1.06 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:
.1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect toilet and bathroom accessories from nicks, scratches, and blemishes.
.3 Replace defective or damaged materials with new.

2 PRODUCTS

2.01 MATERIALS

.1 Sheet steel: to ASTM A653/A653M with ZF001 designation zinc coating.

.2 Stainless steel sheet metal: to ASTM A167, Type 304, with satin finish.

.3 Stainless steel tubing: Type 304, commercial grade, seamless welded, minimum 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.

.5 To the extent possible, supply products from a single manufacturer for all locations and components.

2.02 COMPONENTS

.1 Toilet tissue dispenser: single double roll type, surface mounted, stainless steel frame, capacity of 500 double ply roll, roll under spring tension for controlled delivery.

.2 Paper towel dispenser: for folded and roll paper towels, stainless steel cabinet, hinged front panel, refill indicator slot, lock and key, surface mounted.

.3 Soap dispenser: liquid push-in valve, 102 mm spout, self-contained 340 mL translucent polyethylene 1.14 L tank, stainless steel piston and valve assembly, tamper proof filler lock, surface mounted, exposed metal components stainless steel.

.4 Grab bars: length(s) as indicated, satin finish, concealed mounting flanges, screw attachment, flanges welded to tubular bar, provided with steel back plates and all accessories. Knurl bar at area of hand grips. Grab bar material and anchorage shall be designed and installed to withstand downward pull of 2.2 kN.

.5 Coat hook: stainless steel with 75 mm projection.

.6 Fixed mirror: wall-mounted using hidden fastener system, frame of type 304 stainless steel, satin finish, No. 1 quality 6 mm thick select float glass mirror to ASTM C1503, 610 mm wide x 914 mm high.

2.03 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 CAN/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.

2.04 FINISHES

.1 Stainless steel Type 304 with satin finish.

.2 Manufacturer's or brand names on face of units not acceptable.

3 EXECUTION

3.01 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrates and surfaces to receive toilet and bathroom accessories previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's instructions prior to toilet and bathroom accessories installation.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied.

3.02 INSTALLATION

.1 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, existing plaster or drywall: use toggle bolts drilled into cell or wall cavity.
- .3 Solid masonry, marble, stone or concrete: use bolt with lead expansion sleeve set into drilled hole.
- .4 Toilet and shower compartments: use male to female through bolts.

.2 Install grab bars on built-in anchors provided by bar manufacturer in accordance with engineered shop drawings.

.3 Use tamper-proof screws/bolts for fasteners.

.4 Fill units with necessary supplies shortly before final acceptance of building.

.5 Install mirrors in accordance with manufacturer’s printed installation requirements and installation details.

3.03 ADJUSTING

.1 Adjust toilet and bathroom accessories components and systems for correct function and operation in accordance with manufacturer's written instructions.

.2 Lubricate moving parts to operate smoothly and fit accurately.

3.04 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  .1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.05 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by toilet and bathroom accessories installation.

3.06 SCHEDULE

.1 Locate accessories where indicated and to CSA B651. Exact locations determined by Departmental Representative.

END OF SECTION