

SECTION 10 80 00

MISCELLANEOUS SPECIALTIES

PART 1 GENERAL

1.1 SUMMARY

- A. Comply with Division 1, General Requirements.

1.2 SYSTEM DESCRIPTION

- A. Design for expansion and contraction of materials as required.
- B. Design specified systems, anchors, fastenings and secondary support system to withstand applicable loads established by the National Building Code of Canada and applicable local regulations for the locality. Deflection of profile sheets: Maximum 1/180th of span at this loading. Reference velocity pressure: Based on hourly wind pressures for the locality.
- C. Design work of this Section, which will support other items or will be required to support structural loads of any nature, by a professional engineer licensed in the Province of Manitoba. Affix professional seal and signature to shop drawings for such items.

1.3 REFERENCES

- A. National Building Code of Canada (NBC).
- B. Comply with the latest edition of the following statutes codes and standards and all amendments thereto.
  - 1. ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium - Nickel Steel Plate, Sheet and Strip.
  - 2. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
  - 3. ASTM B221 Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 4. CAN/CGSB 63.14 Plastic Skylights.
  - 5. CAN/CGSB 1.88 Gloss Alkyd Enamel, Air Drying and Baking.
  - 6. CSA G40.21 General Requirements for Rolled or Welded Structural Quality Steel.
  - 7. CSA W59 Welded Steel Construction (Metal Arc Welding).

1.4 SUBMITTALS

- A. Submit Shop Drawings:
  - 1. Indicate and describe in detail items of this Section.

2. Include large-scale details of members and materials, anchorage devices where required, dimensions, thicknesses, description of materials, metal finishing specifications, and other pertinent information.
  3. Submit full size template drawing of plaque showing mounting method.
  4. Submit manufacturer's installation instructions.
- B. At time of shop drawing submittals, Submit written certification from professional engineer licensed in the Province of Manitoba stating that support system, anchorage and equipment have been designed according to requirements of the NBC, Division B, Part 4, article 4.1.8.17 for post-disaster structures.

## 1.5 WARRANTY

- A. Submit a five-year warranty covering access hatch against defects in materials and workmanship.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Steel: CAN/CSA-G40.21-M Medium grade steel.
- B. Welding Materials: CSA W59-M.
- C. Interior Primer: CISC/CPMA Standard 2-75a.
- D. Zinc Rich Primer: Minimum 97 percent pure electrolytic zinc in dry film coating.
- E. Baked-on Enamel: CGSB 1.88-92 Type II, primer CAN/CGSB-1.81-M Type II.
- F. Stainless Steel: ASTM A167 Type 302 alloy, No. 4 finish.
- G. Aluminum Sheet: ASTM B209.
- H. Aluminum Extrusions: ASTM B221.
- I. Isolation Coating: ASTM D1187, Bituminous Coating.

### 2.2 MANUFACTURED UNITS

- A. Floor Door: Factory assembled aluminum units:
1. Performance characteristics:
    - a. Covers: Reinforced to support a minimum live load of 300 psf (14.4 kPa) with a maximum deflection of 1/150th of the span.
    - b. Operation of the cover: Smooth and easy with controlled operation throughout the entire arc of opening and closing. Operation of the cover shall not be affected by temperature.

- c. Entire door, including all hardware components, shall be highly corrosion resistant.
- 2. Covers: 6.3 mm minimum aluminum diamond pattern.
- 3. Frame: Angle frame, 6.3mm minimum, extruded aluminum with bend down anchor tabs around perimeter, with 38 mm in diameter drain coupling.
- 4. Gasket: Continuous EPDM/ Neoprene gasket mechanically attached to frame.
- 5. Lifting mechanisms: Provide the required number and size of compression spring operators enclosed in telescopic tubes.
- 6. Hardware:
  - a. Hinges: Specifically designed for horizontal installation and shall be through bolted to the cover with tamperproof Type 316 stainless steel lock bolts.
  - b. Covers equipped with hold open arm which automatically locks the cover in the open position.
  - c. A Type 316 stainless steel snap lock with fixed handle mounted on the underside of the cover.
  - d. A removable exterior turn/lift handle with a spring loaded ball detent to open the cover and the latch release shall be protected by a flush, gasketed, removable screw plug.
  - e. Hardware: Shall be anticorrosion throughout.
- 7. Finishes: Factory finish shall be mill finish aluminum with bituminous coating applied to the exterior of the frame.
- 8. Models and Manufacturers:
  - a. Floor Door - Double leafs floor door:
    - 1) Model-CKD by MSU Mississauga LTD., KD, by Bilco Canada., FAD 300, U.S.F. Fabrications supplied by Acudor Access Doors
    - 2) Nominal Size: 1500 mm x 1800 mm. Quantity: Thirty (30) units, at Roof of Bioreactors Tanks.
  - b. Floor Door Single Leaf Floor Door:
    - 1) Model-CK by MSU Mississauga LTD,K-Al single leaf, by Bilco Canada, FA 300 -Aluminum single leaf by U.S.F. Fabrications supplied by Acudor Access Doors
    - 2) Nominal Size: 750 mm x 900 mm. Quantity: Thirty (30) units, at Roof of Bioreactors Tanks.
    - 3) Nominal Size: 900 mm x 900 mm. Quantity: Eleven (11) units at Secondary Clarifiers 4 & 5 Facility.
    - 4) Nominal Size: 750 mm x 900 mm. Quantity: One (1) units at Roof of basement of Secondary Clarifiers 4 & 5 facility.

### 2.3 FABRICATION

- A. Fabricate accessories true, square, rigid, free from distortion and from defects detrimental to appearance and performance.
- B. Make visible joints, where permitted, straight, accurate, hairline butt joints. Mitre corner joints.

- C. Assemble sheet metal accessories by welding in accordance with CSA W59. Conceal welds or grind smooth and make invisible in the completed work.
- D. Use concealed fasteners for mounting accessories.
- E. Brake form sheet metal work with maximum 1.5 mm radius bends.
- F. Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- G. Back paint components with bituminous paint 40 micron DFT, where contact is made with building finishes to prevent electrolysis.
- H. Hot-dip galvanize ferrous metal anchors and fastening devices to CSA G164-M.
- I. Shop assemble components and package complete with anchors and fittings.
- J. Deliver inserts and rough-in frames to job site at appropriate time for building-in. Submit templates or rough-in measurements as required.
- K. Fabricate steel anchor plates and components for installation in gypsum board systems.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Examine surfaces to which work is to be anchored or connected and job conditions.
- B. Report unsatisfactory conditions likely to prevent or prejudice proper installation of work.
- C. Commence work after unsatisfactory conditions are corrected.
- D. Mount units for handicapped person use as required by building code.

#### 3.2 INSTALLATION

- A. Provide units to manufacturers installation instructions.
- B. Backpaint metal surfaces in contact with dissimilar metals, masonry or concrete with 1.0 mm thick bituminous coating. Install items where indicated, securely fastened to the structure. Install items square, plumb and free from distortion. Provide units complete with components required for anchoring to concrete, masonry, and metal supports particular substrate.

END OF SECTION