SECTION 10 14 00

IDENTIFYING DEVICES

PART 1 GENERAL

1.1 REFERENCES

A. The following is a list of standards that may be referenced in this section:
   1. NBC – National Building Code of Canada.
   2. The Chlorine Institute, Inc.: WC-1, Wall Chart: Handling Chlorine Cylinders and Ton Containers.
   3. CSA 22.2 No. 141 Emergency Lighting Equipment.
   4. CAN/ULC-S572 Photo Luminescent and Self-Luminous Exit Signs and Path Markings.
   5. National Fire Protection Association (NFPA):
      a. 49, Hazardous Chemicals Data.
      b. 704, Standard System for the Identification of the Hazards of Materials for Emergency Response.
   6. Occupational Safety and Health Act (OHSA).
   7. ISO 3864-1 Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs in Work Places and Public Areas.
   8. ISO 7010 Graphical Symbols – Safety Colours and Safety Signs – Safety Signs in Work Places and Public Areas.

1.2 SUBMITTALS

A. Shop Drawings:
   1. Shop Drawing signed and sealed by Professional Engineer licensed in Province of Manitoba.
   2. Drawings showing layouts, actual letter sizes and styles, and project-specific structural supports and mounting details.
   3. Manufacturer's literature showing letter sizes and styles, sign materials, and standard mounting details.
   4. Samples: One full size for each type of building identification sign, tunnel identification sign, door identification sign and key plan sign and location (you are here) sign.
   5. Entrance Sign and Directional Signs samples: Part of sign including part of frame, aluminum panels on both sides and lettering showing finishes and colours.

B. Informational Submittals: Manufacturer's installation instructions.

PART 2 PRODUCTS

2.1 DOOR NAMEPLATES (PLASTIC)

A. Material: Plastic with square corners.

B. Thickness: 3 mm.

C. Height: 50 mm.

D. Finish: Nondirectional matte.

E. Background: As scheduled.

F. Letters: Engraved.
   1. Size: 25 mm high.
   2. Color: White.
   3. Style: Helvetica medium upper and lower case.
   4. Message Text: As shown on Room Finish Schedule.

G. Manufacturers and Products:
   1. Best Manufacturing Co., Kansas City, MO; System A-101.
   2. Andco Industries Corp., Greensboro, NC; 1400 series.

2.2 SIGNS

A. Plastic Signs (Type A):
   1. Exterior: Laminated plastic subsurface image type, 40 mm thick with high-gloss finish.
   2. Interior: Plastic, 20 mm thick with nondirectional matte finish and engraved letters.
   3. Rounded corners.

B. Metal Signs (Type B):
   1. Material: Baked enamel finished 20-gauge (minimum) steel or 18-gauge (minimum) aluminum signs.
   2. Manufacturers:
      a. Seton Name Plate Co.
      b. Nutheme Illustrated Safety Co.

C. Fiberglass Signs (Type C):
   1. Material: Three-ply laminated fiberglass, minimum 20 mm thick, with contrasting color core message layer between two clear weather-resistant surface layers.
   2. Manufacturers:
      a. Best Manufacturing Co.
      b. Brady Signmark.

D. Exit Signs:
   1. Consist of a green pictogram and white symbol meeting the visibility specifications referred to in ISO 3864-1, “Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs in Workplaces and Public Areas”.
   2. Conform to the dimensions indicated in ISO 7010, “Graphical Symbols – Safety Colours and Safety Signs – Safety Signs Used in Workplaces and Public Areas” for the following symbols:
      a. E001 emergency exit left,
      b. E002 emergency exit right,
      c. E005 90-degree directional arrow, and
      d. E006 45-degree directional arrow.

3. Internally Illuminated Exit Signs (Type 1):
   a. Be continuously illuminated
   b. Where illumination of the sign is powered by an electrical circuit, be constructed in conformance with CSA 22.2 No. 141, “Emergency Lighting Equipment”.
4. Photoluminescent and Self-Luminous Exit Signs (Type 2):
   a. Conform to CAN/ULC-S572, “Photoluminescent and Self-Luminous Signs and Path Marking Systems”.
   b. Be continuously illuminated if reliant on an external energy source to energize the reflective coating of the design.

E. Hazardous Material Signals (Type H):
1. Conform to NFPA No. 704 and 49.
2. Material: Fiberglass 20 mm thick
3. Background, Letters, and Numbers: Die-cut vinyl with pressure sensitive adhesive.
4. Manufacturers:
   a. Brady Signmark.
   b. Emed Co., Inc.

2.3 IDENTIFICATION LABELS

A. See Specification Section 40 05 53, Identification Labels for Equipment, Fabricated Tank, Valves and Piping Systems.

2.4 ANCILLARY MATERIALS

A. Fasteners: Stainless steel screws or bolts of appropriate sizes.

B. Wood Posts: Preservative treated 100 by 100 mm as specified in Section 06 10 00, Rough Carpentry.

C. Pipe Posts: Galvanized steel pipe meeting ASTM A53, Type S, Grade B.

D. Chain: Type 304 stainless steel, No. 16 single jack chain or No. 2 double loop coil chain.

E. Manufacturer’s standard brackets for wall mounting of 2-sided exit signs.

PART 3 EXECUTION

3.1 INSTALLATION-GENERAL

A. In accordance with manufacturer's recommendations.

B. Mount securely, plumb, and level.

3.2 SIGNS

A. Fasten to walls or posts or hang as scheduled. Anchor in place for easy removal and reinstallation with ordinary hand tools.

B. Information, Exit, and Safety Signs:
   1. Install facing traffic. Locate for high visibility with minimum restriction of working area around walkways and equipment.

C. Traffic Signs: Mount each sign on scheduled support using two 6 mm stainless steel bolts through sign and post.

D. Hazardous Material Signals:
   1. Install where required by NFPA No. 704 and UFC, Chapter 79 and where indicated.
   2. Install at entrances to spaces where hazardous materials are stored, dispensed, used, or handled and on sides of stationary tanks.
   3. Specific Materials:

3.3 IDENTIFICATION LABELS

A. See Specification Section 40 05 53, Identification Labels for Equipment, Fabricated Tank, Valves and Piping Systems

3.4 SPECIFIC SIGN MESSAGES

A. Polymer Fill Station Format and Message:
   1. Polymer Fill Station: This station allows for unloading concentrated polymer from trucks. When operating, wear safety goggles and face shield, rubber gloves, rubber boots, rubber apron, cotton or polyester long-sleeved shirt or rubber jacket, and plastic hard hat.
   2. Operating Procedure:
      a. Notify plant personnel prior to unloading. Ask for assistance if needed.
      b. Place corrosion-resistant bucket under bleed valve in fill station.
      c. Remove cap from polymer fill line adapter and make connection between truck hose adapter and polymer fill line adapter.
         1) Open valve on fill line.
         2) Open valve on truck hose.
      d. Unload polymer from truck. Observe level in polymer storage tank at all times by using local level indicator.
      e. When level in storage tank indicates TANK FULL, discontinue unloading of polymer.
         1) Close valve on fill line.
         2) Close valve on truck hose.
      f. Open bleed valve to drain polymer between fill line valve and truck hose valve into bucket.
      g. Close bleed valve.
      h. Use caution to break connection between truck hose adapter and polymer fill line adapter.
      i. Replace cap on polymer fill line adapter.
      j. Remove bucket and pour waste polymer either back into delivery truck or into a water-holding basin at a location selected by plant operating personnel. Thoroughly rinse bucket by submerging bucket in water basin.

3. In Case of Emergency: Immediately flush contaminated skin or eyes with water at the safety shower and eyewash. Notify plant personnel. Follow procedures outlined in the polymer Material Safety Data Sheet.

3.5 SUPPLEMENTS

A. The supplement listed below, following "End of Section," is a part of this Specification.
   1. Sign Schedule: A tabulation of characteristics and mounting information for each sign on the Project. Provide items as scheduled. Meet requirements of Occupational Safety and Health Act (OSHA).
   2. Signs:
      a. Danger Sign
      b. Caution Sign
      c. Warning Sign
      d. Handicapped Parking Sign
      e. Exit Sign
      f. Hazardous Material Signal
      g. Safety First Sign

END OF SECTION

SIGN SCHEDULE

Sign									Lettering					
			Size			Mounting								
No.[1]	Type[2]	Format[3]	Width mm	Height mm	Color	Location	Method	Height to Top mm	Height mm	Style	Color	Message	Faces	Other Requirements
C-1	C	1014-002	500	360	Yellow	Hanging	Chain	1700	25 min.	Helvetica	Black	CAUTION Equipment Starts Automatically	1	
C-2	C	1014-002	500	360	Yellow	Wall	Bolts	1700	25 min.	Helvetica	Black	CAUTION Ear Protection Required	1	
D-1	C	1014-001	500	360	White	Door	Screws or Bolts	1700	25 min.	Helvetica	Black	DANGER High Voltage	1	
D-2	C	1014-001	500	360	White	Door	Screws	1700	25 min.	Helvetica	Black	DANGER Hazardous Area NO SMOKING Possible Toxic Fumes and Lack of Oxygen	1	
D-3	B	1014-001	500	360	White	Pipe Post	Bolts	1070	25 min.	Helvetica	Black	DANGER Hazardous Area Possible Toxic Fumes and Lack of Oxygen	1	
D-4	C	1014-001	500	360	White	Wall	Bolts	1700	25 min.	Helvetica	Black	DANGER No Smoking	1	
D-5	B	1014-001	500	360	White	Pipe Post	Bolts	1070	25 min.	Helvetica	Black	DANGER No Smoking	1	
D-6	C	1014-001	500	360	White	Wall	Bolts	1070	25 min.	Helvetica	Black	DANGER Nonpotable Water Not for Drinking	1	Provide at interior W2 hose valves

SIGN SCHEDULE

Sign									Lettering					
			Size			Mounting								
No.[1]	Type[2]	Format[3]	Width mm	Height mm	Color	Location	Method	Height to Top mm	Height mm	Style	Color	Message	Faces	Other Requirements
D-7	B	1014-001	500	360	White	Pipe Post	Bolts	1070	25 min.	Helvetica	Black	DANGER Nonpotable Water Not for Drinking	1	Provide at exterior W2 hose valves
D-8	C	1014-001	500	360	White	Door	Screws	1700	25 min.	Helvetica	Black	DANGER CHLORINE	1	
D-9	F		As required		White	Tank Side	Painted	1500	75 min.	Block	Red	*DANGER COMBUSTIBLE LIQUIDS	1	*Put message on one line
D-10	B	1014-01	360	250	White	Fence	Bolts	1700	25 min.	Helvetica	Black	DANGER HIGH VOLTAGE	1	
D-11[4]	C	1014-001	250	175	White	Door	Screws	1700	25 min.	Helvetica	Black	DANGER CONFINED SPACE AUTHORIZED EMPLOYEES ONLY	1	
H-*	H	1014-006	250 min.	250 min.	*	Wall	Screws	1700	100	Block	Black	*	1	*See format detail and Spec Article, SIGNS
I-1	A		As required		White	Wall	Bolts	1700	25 min.	Helvetica	Black	Sodium Bisulfite Fill Station	1	
I-2	A		As required		White	Wall	Bolts	1700	25 min.	Helvetica	Black	*Polymer Fill Station	1	*See format and message in Article SPECIFIC SIGN MESSAGES

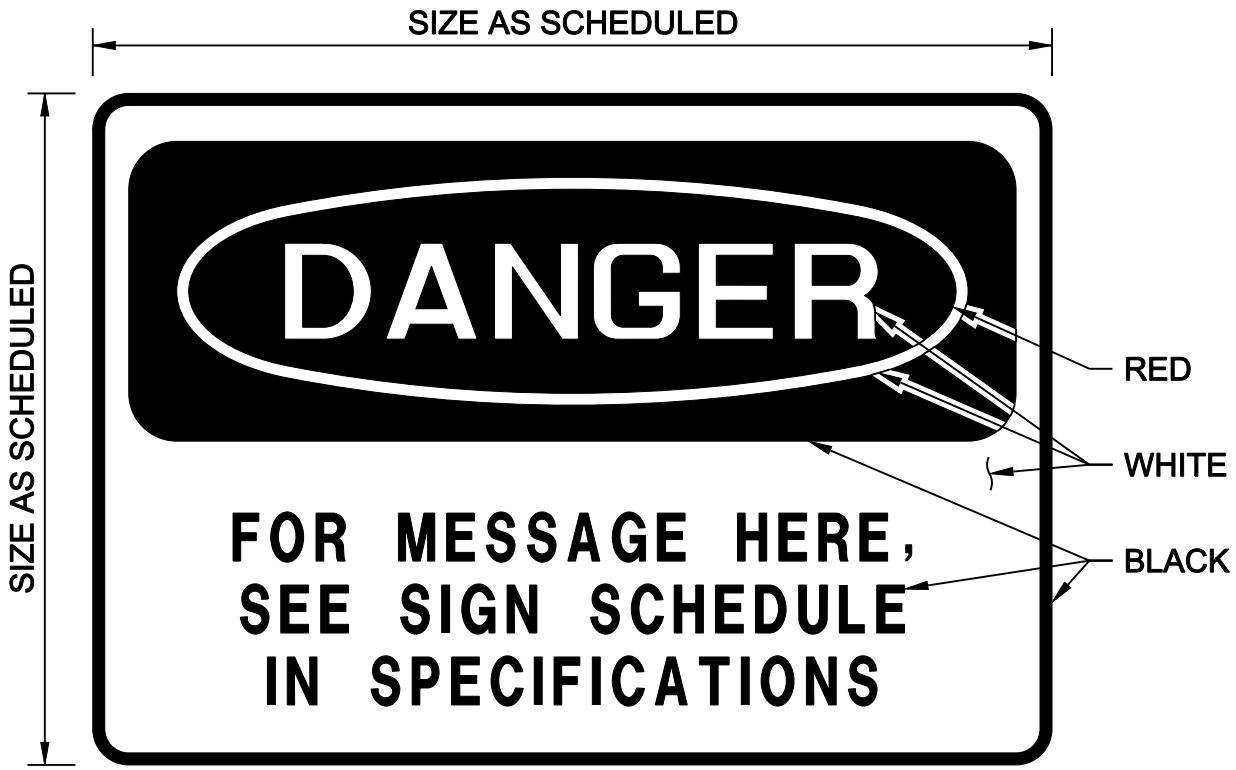
SIGN SCHEDULE

Sign									Lettering					
			Size			Mounting								
No.[1]	Type[2]	Format[3]	Width mm	Height mm	Color	Location	Method	Height to Top mm	Height mm	Style	Color	Message	Faces	Other Requirements
I-3	A	1014-008	500	360	White	Wall	Screws	1700	25 min.	Helvetica	Black	NOTICE Authorized Personnel Only	1	
I-4	A	1014-008	500	360	White	Wall	Screws	1700	25 min.	Helvetica	Black	NOTICE This elevator is for freight only. Not for Passengers	1	
S-1	B	1014-009	250	175	White	Door	Screws	1700	25 min.	Helvetica	Red	FIRE DOOR DO NOT OBSTRUCT	1	
S-2	A	1014-007	150	175	White	Wall	Screws	1500	10 min.	Helvetica	Black	In case of fire use stairway Do not use elevator	1	
S-3	B	1014-011	175	250	White	Door/Wall	Screws/ Bolts	1700	65	Block	Black	NOT AN EXIT	1	
T-1	D	STD	900	900	Red	Wood	Bolts	1900 min.	125 min.	Block	White	STOP	1	
T-2	D	STD	600	900	White	Wood Post	Bolts	1070	125 min.	Helvetica	Black	SPEED LIMIT 25	1	
T-3[4]	D	1014-004	300	460	Blue	Pipe Post	Bolts	1700	25 min.	Block	White	*HANDICAPPED PARKING STATE PERMIT REQUIRED	1	*With symbol above

SIGN SCHEDULE

Sign									Lettering					
			Size			Mounting								
No.[1]	**Type[2]**	**Format[3]**	**Width mm**	**Height mm**	**Color**	**Location**	**Method**	**Height to Top mm**	**Height mm**	**Style**	**Color**	**Message**	**Faces**	**Other Requirements**
W-1	C	1014-003	500	360	Orange	Wall	Bolts	1700	25 min.	Helvetica	Black	WARNING Corrosive Materials Wear Required Protection	1	
W-2	C	1014-003	500	360	Orange	Wall	Bolts	1700	25 min.	Helvetica	Black	WARNING Eye Protection Required in this Area	1	
X-1	G	1014-005			White	Wall	Bolts	1800						

[1]Numbers refer to a particular sign type with a particular message.
[2]Letters refer to sign types specified in this Section.
[3]Numbers refer to Design Details that show sign layout.
[4]Verify requirements for this sign with Laws and Regulations in province where Project is located.



DANGER SIGN

NTS

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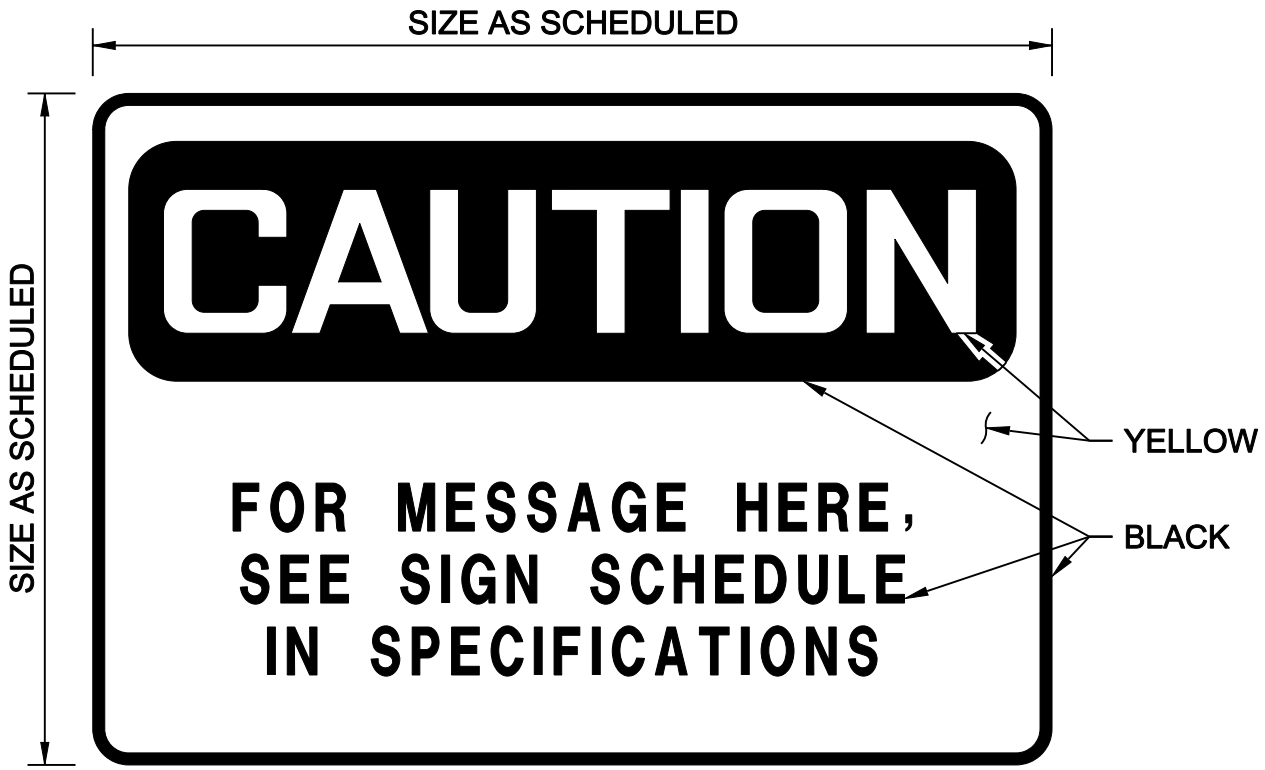
1014-001



CAUTION SIGN

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1014-002

WARNING SIGN

NTS

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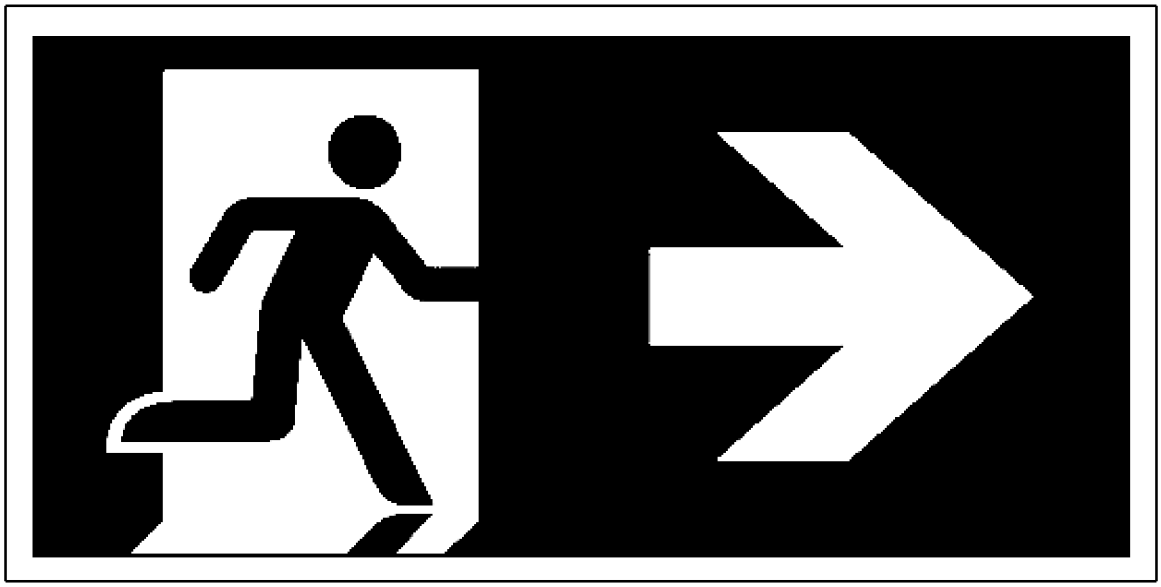
1014-003



NOTES:

1. DIRECTION ARROW POINTS TO LEFT OR RIGHT, AS SCHEDULED.

2. AT 2-SIDED SIGNS, DIRECTION ARROW POINTS TO LEFT ON ONE FACE AND TO RIGHT ON OTHER FACE. FURNISH BRACKET FOR WALL MOUNTING.

2. SIGN CONSISTS OF A GREEN PICTOGRAM AND WHITE SYMBOL MEETING THE VISIBILITY SPECIFICATIONS REFERRED TO IN ISO 3864-1, "GRAPHICAL SYMBOLS - SAFETY COLOURS AND SAFETY SIGNS - PART 1 : DESIGN PRINCIPLES FOR SAFETY SIGNS IN WORKPLACES AND PUBLIC AREAS".

   CONFORM TO THE DIMENSIONS INDICATED IN ISO 7010, " GRAPHICAL SYMBOLS - SAFETY COLOURS AND SAFETY SIGNS - SAFETY SIGNS USED WORKPLACES AND PUBLIC AREAS " FOR THE FOLLOWING SYMBOLS:
   A. E001 EMERGENCY EXIT LEFT
   B. E002 EMERGENCY EXIT RIGHT
   C. E005 90 DEGREE DIRECTIONAL ARROW
   D. E006 45 DEGREE DIRECTIONAL ARROW

EXIT SIGN

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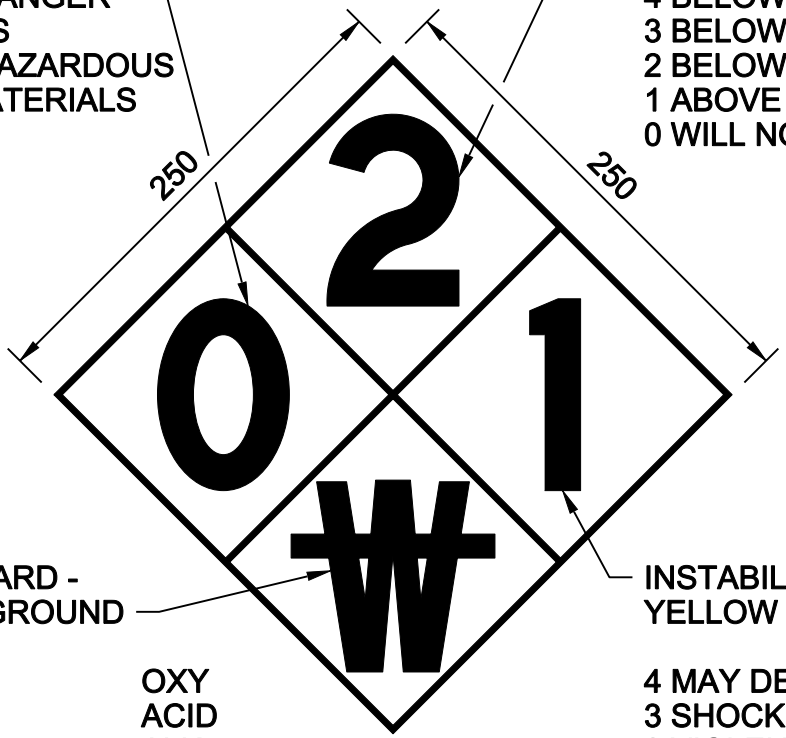
1014-005

HEALTH HAZARD -
BLUE BACKGROUND

4 DEADLY
3 EXTREME DANGER
2 HAZARDOUS
1 SLIGHTLY HAZARDOUS
0 NORMAL MATERIALS

FLAMMABILITY HAZARD -
RED BACKGROUND

FLASH POINTS
4 BELOW 73 F
3 BELOW 100 F
2 BELOW 200 F
1 ABOVE 200 F
0 WILL NOT BURN



SPECIAL HAZARD -
WHITE BACKGROUND

OXIDIZER	OXY
ACID	ACID
ALKALI	ALK
CORROSIVE	COR
USE NO WATER	₩
RADIATION HAZARD	☢

INSTABILITY HAZARD -
YELLOW BACKGROUND

4 MAY DETONATE
3 SHOCK & HEAT MAY DETONATE
2 VIOLENT CHEMICAL CHANGE
1 UNSTABLE IF HEATED
0 STABLE

NOTES:

1. LETTER HEIGHT: 100mm
   LETTER COLOR: BLACK
2. NUMBERS AND LETTERS ON ABOVE SIGNAL DETAIL ARE EXAMPLES ONLY. SEE SPECIFICATION 10 14 00 FOR REQUIREMENTS ON THIS PROJECT.

HAZARDOUS MATERIAL SIGNAL

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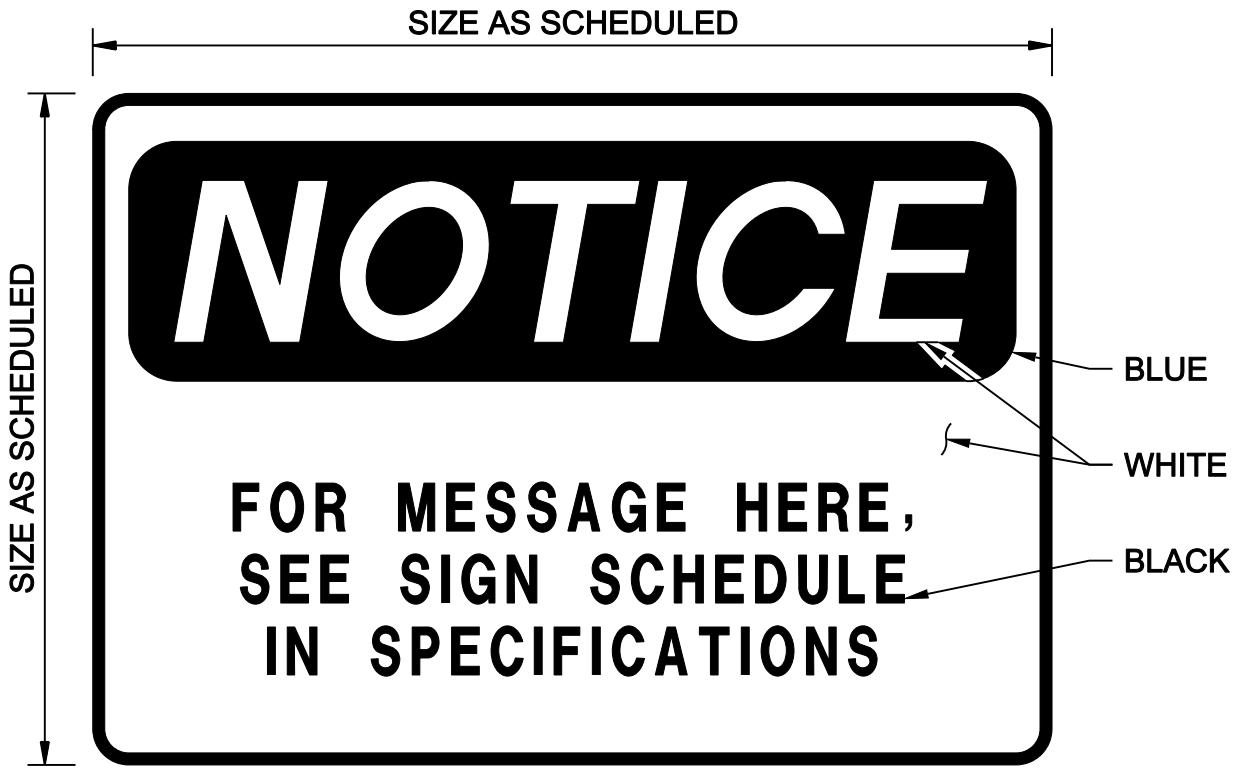
NOTE TO DESIGNER:

1014-006



NOTICE SIGN

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1014-008

SAFETY FIRST SIGN

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1014-012

SECTION 10 28 13

TOILET ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

A. Comply with Division 1, General Requirements.

1.2 REFERENCES

A. 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 and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   4. ASTM B456 Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
   5. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
   6. CSA W59 Welded Steel Construction (Metal Arc Welding).
   7. ASTM D1187 Bituminous Coating.

1.3 SUBMITTALS

A. Submit Shop Drawings clearly indicating accessory materials, products and finishes and showing in large scale detail the construction, reinforcing, anchorage and, where permitted, the location of exposed fastenings.

B. Submit necessary templates and instructions where recessed, opening, fastenings or anchors have to be built in by other Sections.

C. Submit three copies of a list of accessories requiring supplies together with names and addresses of local distributors of the supplies. Include parts list and maintenance data.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Carefully wrap accessories ensuring protection during shipping and storage.

B. Store accessories inside the building in the location directed, and so that their identification is readily visible, and in the general order in which they will be required for installation.

PART 2 PRODUCTS

2.1 MANUFACTURE

A. Design has been based on Models by Bobrick Washroom Equipment of Canada Ltd.

B. Manufacturer's standard products modified to comply with these Specifications which are similar in function, design and appearance and of the same materials, construction and finishes to those specified, are acceptable from:
   1. Bradley Corp.
   2. Watrous Sales Inc. Division of American Specialties Inc.

C. Supply all accessories by one manufacturer.

D. Manufacturer is required to certify that accessories items meet design function, quality of materials and workmanship.

2.2 MATERIALS

A. Stainless Steel: Type 4 finish, Type 302.

B. Steel: Galvanized steel sheet: Commercial quality sheets, plain commercial galvanized or electro-galvanized.

C. Cold Rolled Sheet: Commercial quality.

D. Galvanized Steel: Zinc coating of 0.38 kg/sq.m, commercial grade to ASTM A653.

E. Aluminum Extrusions: Aluminum alloy 6063-T5.

F. Aluminum Sheet: Aluminum Association alloy 1100, anodizing quality.

G. Isolation Coating: ASTM D1187 Bituminous Coating.

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, make undetectable in the completed work.

D. Except as otherwise specified, conceal assembly fastenings, hardware fixings, and mounting or installation devices in the finished work.

E. Include fasteners for mounting accessories. Make fasteners of non-corrosive metal and of the expansion type, toggle type or other accepted type of positive, mechanical anchor as required to suit the construction to which the accessory is to be mounted. Exposed fasteners, where permitted, finish to match the adjacent accessory surface, and countersink. Where accessories are to be mounted to sheet metal, fabricate a 3 mm thick minimum full-size metal back-up plate drilled and tapped to receive machine screws and finished to match the adjacent sheet metal surface.

F. Where specified as frameless, make accessories with one-piece fronts with 90 degree formed returns at their edges and openings. Continuously weld returns and grind smooth at the corners.

G. Where accessory fronts are framed, frame edges, both inside and outside, with 90 degree formed returns continuously welded and ground smooth at the corners. Make doors with 90 degree formed returns as specified.

H. Unless otherwise specified, conceal stainless steel piano hinges and extend full-length of hinged element. Make hinged elements with semi-concealed, mechanically retained, rubber bumpers for silent closing, and close flush with faces of fronts or frames.

I. Unless otherwise specified, make portions of sheet metal accessory interiors which are visible in the completed work stainless steel. Form changes in plane or continuously welded and ground smooth.

J. Make sheet metal accessory parts concealed in the finished installation galvanized or stainless sheet steel.

K. Hem edges of sheet metal which are accessible by users or maintenance personnel for safety.

L. Where specified, fabricate accessory fronts and doors from 16 mm thick solid plastic core plastic laminate. No exposed fixings permitted. Cut edges and openings square and smooth. Chamfer corners of edges and cut-outs 1.6 mm. Make face laminate suede finish, solid colour as selected.

M. Silk screen or engrave lettering on accessories with durable paint to withstand wear. Make size, location and type face of lettering as selected. Make edges of letters straight and sharp.

2.4 FINISHES - STAINLESS STEEL

A. Finish stainless steel to a standard AISI No. 4 mechanical finish. Arrange stainless steel sheet so that the grain of the finish runs vertically in the finished installation.

2.5 FINISHES - CHROME PLATE

A. Where steel is specified as having a chrome plated finish, pretreat including mechanical removal of imperfections and buffing, degreasing, removal of degreaser, electrolytic cleaning, intermediate treatments of acid washes and cold water rinses in preparation for and to suit plating, nickel plating pretreatment, nickel plating, hard chromium plating with a final hot water rinse.

2.6 FINISHES - BAKED ENAMEL

A. Finish metal surfaces visible in the completed installation with a comprehensive pretreatment including mechanical removal of imperfections, buffing, degreasing, non-etch chemical cleaning and 2 baked-on coats of thermosetting acrylic enamel. Colour and gloss of enamel finish as designated by the Contract Administrator.

2.7 TOILET

A. Furnish accessory items listed, and where indicated by mark or note on Drawings.

Item	Mark	Bobrick	Bradley	Quantity
Surf. Mounted Roll Toilet Paper Dispenser	TPD	No. B-2740	No. 5241-50	3
Wall Mounted Liquid Soap Dispenser	SD-2	No. B-4112	No. 6542	3
Mirror, Size on Dwgs	MIR	No. B-290	No. 780	3
Surf. Mounted Paper Towel Dispenser and Receptacle	PTD/R	No. B-3949	No. 235-11	3
Grab Bars (toilet, 915 mm 45-degrees)	GB-1	No. B-5806.99x36	No. 8322-048/049 - 36	1
Grab Bars (toilet, 610 mm)	GB-2	No. B-5806.99x24	No. 8322-00124	1

2.8 SHOWER

A. Shower Door: Refer to Section 10 80 00, Miscellaneous Specialties.

B. Lockers: Refer to Section 10 80 00, Miscellaneous Specialties.

C. Benches: Refer to Section 06 20 00,Finish Carpentry.

D. Furnish accessory items listed, and where indicated by mark or note on Drawings.

Item	Mark	Bobrick	Bradley	Quantity
Shower Curtain Rod	SCR	No. B-207	No. 9538	3
Shower Curtain w/Hooks 1000 wide shower enclosure	SC-1	No. B-204-2	No. 9537x1067	3
Fold-Up Dressing Area Seat (rectangular shaped)	DRS	No. B-5191	No. 9558	3
Towel Pin	TP	No. B-6777	No. 9314	6
Wall Mounted Liquid Soap Dispenser	SD-2	No. B-4112	No. 6542	3
Recessed Soap Dish and Bar	SD-3	No. B-4390	No. 940/9402	3
Grab Bars (shower, 915 mm)	GB-3	No. B5806.99x36	No. 8322-00136	3

Item	Mark	Bobrick	Bradley	Quantity
Towel Bar (24-inch)	TB	No. B-6737	No. 9054	3

2.9 JANITOR'S ROOM

A. Steel Shelving: Refer to Section 10 80 00 Miscellaneous Specialties.

B. Furnish accessory items listed, and where indicated by mark or note on Drawings.

Item	Mark	Bobrick	Bradley	Quantity
Mop and Broom Holder (610 mm)	M&BH	No. B-223 x 24	No. 9953	6
Robe Hook	RH	No. B-6727	No. 9124	6

PART 3 EXECUTION

3.1 INSTALLATION

A. Securely fasten accessories, level and plumb in the locations shown on the Drawings and as specified herein. Mounting heights; as shown on the Drawings or, where not shown, as directed.

B. Co-ordinate installation with the work of trades providing adjacent construction as required to achieve the reveals or other edge conditions shown on the Drawings.

C. Perform drilling of steel, masonry, concrete and other materials necessary to install the work of this Section.

D. Insulate accessory surfaces to prevent electrolysis due to contact with masonry, concrete or dissimilar metal surfaces. Use bituminous paint, building paper or other accepted means.

3.2 ADJUSTMENT

A. Upon completion of the work or when directed, remove all traces of protective coatings or paper.

B. Test mechanisms, hinges, locks and latches and where necessary, adjust and lubricate and ensure that accessories are in perfect working order.

C. Load accessories with an initial full load of supplies and leave ready for use.

3.3 CLEANING

A. Clean and make good surfaces soiled or otherwise damaged in connection with the work of this Section. Pay the cost of replacing finishes or materials that cannot be cleaned.

END OF SECTION

SECTION 10 44 00

PORTABLE FIRE AND SAFETY EQUIPMENT

PART 1 GENERAL

1.1 REFERENCES

A. Comply with the latest edition of the following statutes codes and standards and all amendments thereto.
   1. National Fire Protection Association (NFPA):
      a. No. 10, Standard for Portable Fire Extinguishers.
      b. No. 30, Flammable and Combustible Liquids Code.
   2. Occupational Health and Safety Act.
   3. Underwriters Laboratories of Canada Inc. (ULC): CAN/ULC-S508, Rating and Fire Testing of Fire Extinguishers and Class ‘D’ Extinguishing Media.

1.2 SUBMITTALS

A. Action Submittals: Manufacturer’s product data for each item including sizes, ratings, ULC listings, or other certifications, and mounting information.

PART 2 PRODUCTS

2.1 MULTI PURPOSE DRY CHEMICAL EXTINGUISHERS (TYPE-1)

A. Stored pressure rechargeable type with hose and shut off nozzle, ULC labelled for A, B and C class protection. Sizes as indicated. .

2.2 ORDINARY DRY CHEMICAL EXTINGUISHERS (TYPE-2)

A. Stored pressure rechargeable type with hose and shut off nozzle, ULC labelled for B and C class protection. Sizes or as indicated.

2.3 EXTINGUISHER BRACKETS

A. Type recommended by extinguisher manufacturer.

2.4 IDENTIFICATION

A. Identify extinguishers in accordance with recommendations of ANSI/NFPA 10 CAN/ULC S508.

B. Attach bilingual tag or label to extinguishers, indicating month and year of installation. Provide space for service dates.

2.5 ACCESSORIES

A. Fasteners: Furnish necessary screws, bolts, brackets, and other fastenings of suitable type and size to secure items of fire and safety equipment in position.
   1. Metal expansion shields for machine screws at concrete and masonry.
   2. Interior: Rust-resistant.
   3. Exterior: Stainless steel.

B. Brackets: For all hand extinguishers not located in cabinets, furnish heavy-duty brackets with clip-together strap for wall mounting.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install Type-2 extinguishers in the following locations:
   1. Electrical rooms and Generators room. Location: as indicated on Drawings. Size: 10 lb (4.54kg). Rating minimum 4A:60Bc.
   2. Chemical Rooms and Chemical Containment Areas. Location: as indicated on Drawings. Size: 10 lb (4.54kg). Rating minimum 4A:60Bc.

B. Install Type-1 extinguishers as indicated elsewhere on Drawings. Size: 10 lb (4.54kg). Rating minimum 4A:60Bc

C. Install where indicated or directed and following manufacturer’s recommendations.

D. Plumb and level equipment.

E. Provide adequate backing for mounting surfaces.

3.2 PORTABLE FIRE EXTINGUISHERS

A. Provide at locations shown or as directed by Contract Administrator.

B. Mount hangers securely in position, following manufacturer’s recommendations.

C. Top of Extinguisher: No more than 1370 mm above floor.

END OF SECTION

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 63.14Plastic 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.

B. Submit a two-year warranty covering aluminum signs against defects in materials and workmanship.

C. Submit manufacturer's five-year warranty against defects of Duranar finish.

D. Submit manufacturer’s two-year warranty against defects in footgrilles.

E. Warranty Period: Commencing with date of Substantial Performance.

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. Recessed Foot Grille: Pedigrid G1 series by Construction Specialties Ltd. with poured abrasive surface PA.
   1. Grid Frames:
      a. Frame for level base application: Series LB (46 mm depth)
      b. Frame for drain pan application: Series DP. (106.4 mm depth)

c. Frame for no pan application: Series NP. (106.4 mm depth)

2. Aluminum grid of 6063-T5 alloy, mill finish, with vinyl support cushions 25.4 mm long mounted to each tread rail 610 mm o.c. Design for 977 kg/sq. m.
3. Apply isolation coating on aluminum surfaces in contact with concrete.
4. Colour of frame: Standard mill finish
5. Colour of abrasive surface: To later selection from manufacturer's standard colour range.

B. Lockers: Single Tier Decor Tri-Lok, by General Storage System or Emperor by Hadrian Mfg. Inc. Size 380 by 380 by 1830 mm.

1. Finish: Baked enamel minimum thickness 0.025 mm. Colour: To later selection.
2. Doors: Fully enclosed fabricated of minimum 0.91 mm thick steel, reinforced for hardware.
3. Locker Bodies and Filler Panels: 0.45 mm thick steel, with reinforcing stiffening ribs.
4. Door Frames: Fabricated of 1.6 mm thick cold rolled steel with corners mitred and welded. Fabricate frame with two rubber bumpers at top and bottom of frame.
5. Trim across top and at each end of locker battery: 0.68 mm thick steel.
6. Equip each locker with hat shelf and three single wall hooks.
7. Hardware Components for Each Locker: Five-knuckle hinges, nickel plated recessed door handle with pull, one-piece heavy duty strike keeper, suitable card holder to receive 75 by 40 mm identification card, standard numbering plastic plate and cylinder type key lock. Key each lock differently and masterkey locks. Supply the City with two keys per locker and two master keys.
8. Blank-off top perforations in face of lockers. Make cut-outs in top of lockers as required for duct connections.
9. For groups of lockers mounted against walls, Fabricate passage through internal gusset plates and outlets for connections to forced ventilation system.
10. Fabricate lamacoid plastic name plate on inside of WORK CLOTHES section of door stating:

NOTICE
HIGHER VENTILATION RATE PROVIDED
FOR THIS SIDE OF LOCKER
STORE WORK CLOTHES HERE.

C. Shower Door: Frameless Glass Shower Door:

1. Shower Door: Fabricate unit with 8 mm thick obscure tempered glass complying with CAN/CGSB-12.4-M.
2. Frameless Doors with inline panel. Door hinged off the wall or off adjacent glass panel.
3. Provide with standard style pivot, hinges, spring latch and drip channel with header rail of aluminum or stainless steel, Brite finish.
4. Size of door: 2000 mm high by 670mm wide. Size of inline glass panel to fill in the remaining opening of shower.
5. Manufacturers:
   a. Shower Door of Canada: 416-781983
   b. Door & More: 289-319-8283
   c. Quality Glass Shower Inc.: 905-695-2895
   d. Or approved equal in accordance with B8 product to the approval of the Contract Administrator.

D. Light and Ladder Access Hatch: Bilco GS50 by Bilco Canada, or Series 100A DD, by Lexsuco Canada Ltd., factory assembled aluminum unit 762 mm by 914 mm and manufacturer's standard, stainless steel hardware, padlock hasp, hold open, weather-stripping and extendable safety grip bar. Connect the extension stem to the ladder with a suitable length stainless steel chain for storage when not in use.
   1. Fully Enclosed Curb: 2.3 mm aluminum with rigid glass fibre insulation and 2.3 mm aluminum flashing, height 460 mm.
   2. Cover: aluminum extrusion with built-in condensation drainage channel and acrylic plastic double domes.
   3. Acrylic Plastic Double Domes: Inner translucent white, outer clear.
   4. Install 6 by 50 mm aluminum or galvanized steel eye bolt in curb to secure ladder at hatch.
   5. Sliding Ladder Mounting: Install mounting brackets for ladder on hatch curb using galvanized through bolts.

E. Stainless Steel Floor Door: Model J single leaf, by Bilco Canada, or approved equal in accordance with B8 product by MSU Mississauga and U.S.F. Fabrications supplied by Acudor Access Doors. Factory assembled stainless steel units, size as shown; stainless steel frame with 38 mm drain coupling, welded corners, neoprene seal 75 by 75 by 6 mm minimum with welded-on strap anchors; 6 mm thick minimum reinforced stainless steel diamond plate door.7.2 kPa minimum, load design; snap lock, vinyl grip handle, removable handle for top side; all hardware of stainless steel type 316; lock-in at 90 degree open position, torsion bars; frame exterior coated with bituminous paint; stainless steel mill finish

F. Side Wall Access Doors: by Acudor Access Doors, size as shown on Drawings:
   1. Non-Fire rated walls:
      a. Model UF-5000 for non-rated applications.
      b. Model DW-5040 for gypsum board walls.
      c. Size: 300 x 300 mm
      d. Quantity: 3, one door at each washroom.
   2. Fire rated walls: Model FW-5050 for rated walls.
      a. Size 915 x 915 mm. Quantity: 2 units at Air Plenum/Mechanical Room, Grit and Screenings Building.

G. Steel Shelving: Metalware shelving as distributed by Tenaquip Limited.
   1. Model RK-341 starter unit with RK-340 add-on, boltless, 457 mm deep by 2235 mm high by 915 mm wide, 7 shelves.
   2. Standard 1.31 mm thick steel shelf, 235 kg distributed load capacity.
   3. Colour: Prefinished in baked-on enamel, Standard Gray.
   4. Provide two Shelving units at each Janitor’s Room.

H. Alternating Tread Stairs:
   1. Provide stainless steel alternating tread stair at 68□ from horizontal and landing platforms by Lapeyre Stair Inc.
   2. Submit Shop Drawings for acceptance prior to fabrication.
   3. Space risers equally to within 4.8 mm for adjacent risers and to within 9.6 mm for any two non-adjacent risers on a stair.

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.

C. Alternating Tread Stair: Install alternating tread stair where indicated on Drawings. Provide matching connecting members to adjacent construction. Secure stair to the structure.

END OF SECTION