



SCALE = 1:8

SIGN COLOURS

- SIGN BOARD BACKGROUND RED  
PANTONE COLOUR MATCHING  
SYSTEM NO.485 SOLID COATED  
PANTONE PMS 485 C  
CMYK 0/96/100/0  
RGB 213/43/30  
HEXDECIMAL #D52B1E
- SIGN BOARD TEXT AND BACKGROUND  
WHITE  
CMYK 0/0/0/0  
RGB 255/255/255  
HEXDECIMAL #FFFFFF
- SIGN BOARD TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000
- LOGO FLAG RED  
PANTONE COLOUR MATCHING  
SYSTEM NO.032 SOLID COATED  
PANTONE PMS 032 C  
CMYK 0/100/100/0  
RGB 213/43/30  
HEXDECIMAL #338BEE
- LOGO TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 300 mm, MIN. 225mm  
UPPERCASE  
  
- ILLUSTRATED ON THIS DRAWING AS THE WORD 'DANGER'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 200 mm, MIN. TEXT HEIGHT 150mm, FIRST LETTER CAPITALIZED EVERY WORD  
  
- INCLUDES 2 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DAM AHEAD' AND 'KEEP OUT'
- \*NAME OF DAM - HELVETICA NEUE 55 ROMAN (BOLD), TEXT HEIGHT 60 mm, NAME CASE
- \*EMERGENCY CONTACT - HELVETICA NEUE 55 ROMAN (BOLD), TEXT HEIGHT 40 mm, UPPERCASE (ADHESIVE DECAL BY OTHERS)
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING, AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.5 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.

SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

- 1.0 MATERIALS SPECIFICATIONS
- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 MM (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE. CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

FOR MORE INFORMATION AND TYPICAL DETAIL, PLEASE REFER TO THE FOLLOWING SOURCES:

ALBERTA T&U DRAWING TEB 1.95 ( [HTTP://WWW.TU.GOV.AB.CA/CONTENT/DOCTYPE233/PRODUCTION/SIGNAGE.PDF](http://www.tu.gov.ab.ca/content/doctype233/production/signage.pdf)

BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004  
([HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

MINISTÈRE DES TRANSPORTS DU QUÉBEC  
([HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )

1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3 mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM-D4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANEL WEIGHT NOT TO EXCEED 13.6 kg (30lbs) AND NON-STRUCTURAL PANEL WEIGHT NOT TO EXCEED 9.1 kg (20lbs) WHEN CUT TO SPECIFIED DIMENSIONS.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

2.0 FABRICATION SPECIFICATIONS

2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.

2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENTAL REPRESENTATIVE. HOLES SIZES AND LAYOUT WILL BE PROVIDED TO FABRICATOR PRIOR TO FABRICATION. MOUNTING DETAILS MAY VARY FROM SIGN TO SIGN. ALL HOLES REQUESTED TO BE MADE MUST BE DRILLED AND NOT PUNCHED. TRANSPARENT PLASTIC GROMMETS OF HIGH DENSITY UV TREATED POLYCARBONATE MATERIAL SUCH AS 'LEXAN' MUST BE PROVIDED FOR EACH HOLE TO ACT AS AN INSULATOR AGAINST GALVANIC REACTION WITH SIGN PANEL FASTENERS. 'SNAP-IN' TYPE GROMMETS WILL BE ACCEPTED.

2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPOURS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.

2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.

2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY

2.6 A MAXIMUM OF ONE VERTICAL OVERLAP SPLICE APPROXIMATELY 6mm WIDE WILL BE ALLOWED ON SIGN DIMENSION GREATER THAN 1220. APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL SPLICES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOUR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOUR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE

Revised: November 3, 2014

Checked: November 3, 2014

Approved: November 3, 2014

Drawn by: S.Gauthier

Checked by: S.Gauthier

Approved by: S.Gauthier

REV.2



SCALE = 1:8

## SIGN COLOURS

	<b>SIGN BOARD BACKGROUND RED</b> PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 RGB 213/43/30 HEXIDECIMAL #D52B1E
	<b>SIGN BOARD TEXT AND BACKGROUND WHITE</b> CMYK 0/0/0/0 RGB 255/255/255 HEXIDECIMAL #FFFFFF
	<b>SIGN BOARD TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000
	<b>LOGO FLAG RED</b> PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 RGB 213/43/30 HEXIDECIMAL #338BEE
	<b>LOGO TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000

## SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 70 mm, MIN TEXT HEIGHT 60mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORD 'DANGER'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 50 mm, MIN. TEXT HEIGHT 40mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 5 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'KEEP OUT' AND 'ACCESS BEYOND THIS POINT MAY RESULT IN DROWNING'

PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.5 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

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## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
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### 1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

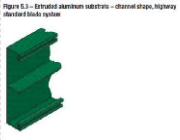
STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

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MINISTÈRE DES TRANSPORTS DU QUÉBEC ( [HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )



### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012<sup>5</sup>) TO 0.4mm (0.015<sup>5</sup>) THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012<sup>5</sup>) TO 0.4mm (0.015<sup>5</sup>) THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANEL WEIGHT NOT TO EXCEED 13.6 kg (30lbs) AND NON-STRUCTURAL PANEL WEIGHT NOT TO EXCEED 9.1 kg (20lbs) WHEN CUT TO SPECIFIED DIMENSIONS.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDD OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

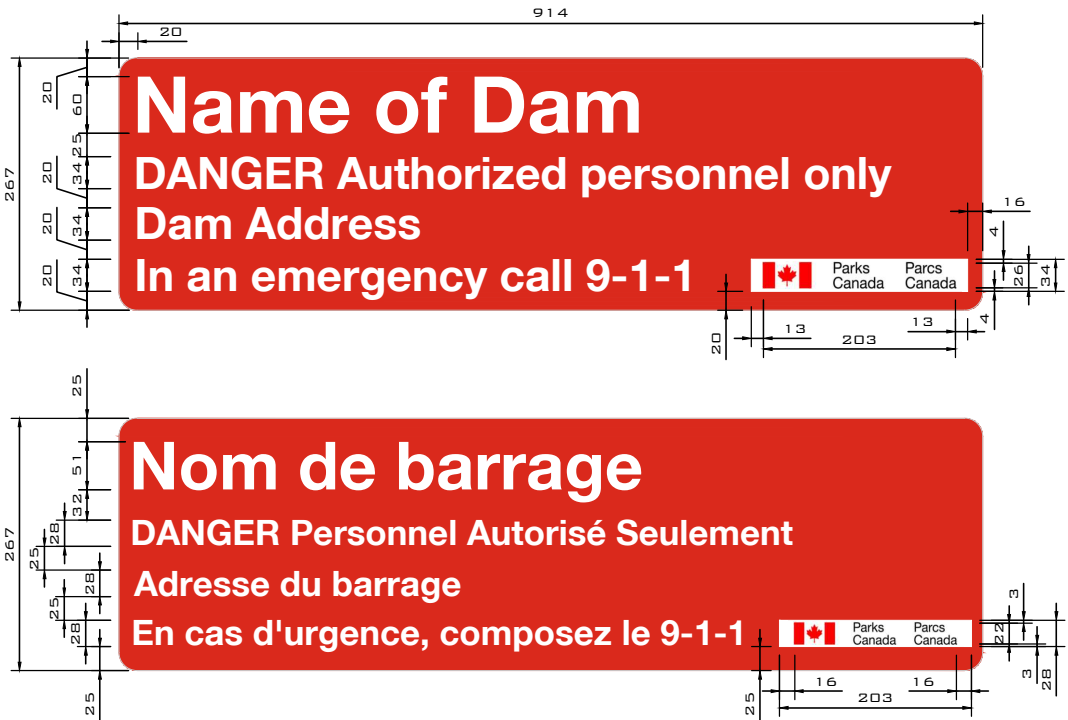
- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
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- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
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- 2.6 A MAXIMUM OF ONE VERTICAL OVERLAP SPLICE APPROXIMATELY 6mm WIDE WILL BE ALLOWED ON SIGN DIMENSION GREATER THAN 1220. APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL SPLICES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.
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Project Name:

Drawing Name:

Drawing No:



SIGN COLOURS

	SIGN BOARD BACKGROUND RED PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 R68 213/43/30 HEXIDECIMAL #D5281E
	SIGN BOARD TEXT AND BACKGROUND WHITE CMYK 0/0/0/0 R68 255/255/255 HEXIDECIMAL #FFFFFF
	SIGN BOARD TEXT BLACK CMYK 0/0/0/100 R68 0/0/0 HEXIDECIMAL #000000
	LOGO FLAG RED PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 R68 213/43/30 HEXIDECIMAL #338BEE
	LOGO TEXT BLACK CMYK 0/0/0/100 R68 0/0/0 HEXIDECIMAL #000000

SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 60 mm, MIN TEXT HEIGHT 51mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORDS NAME OF DAM'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 34 mm, MIN. TEXT HEIGHT 28mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 3 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DANGER AUTHORIZED PERSONNEL ONLY....IN AN EMERGENCY CALL 9-1-1'
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA
- TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.
- +/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.

SCALE = 1:8

SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 mm (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

FOR MORE INFORMATION AND TYPICAL DETAIL, PLEASE REFER TO THE FOLLOWING SOURCES:

ALBERTA T&U DRAWING TEB 1.95 ([HTTP://WWW.TU.GOV.AB.CA/CONTENT/DOCTYPE233/PRODUCTION/SIGNAGE.PDF](http://www.tu.gov.ab.ca/content/doctype233/production/signage.pdf))

BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004 ([HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

MINISTÈRE DES TRANSPORTS DU QUÉBEC ([HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )

1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3 mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

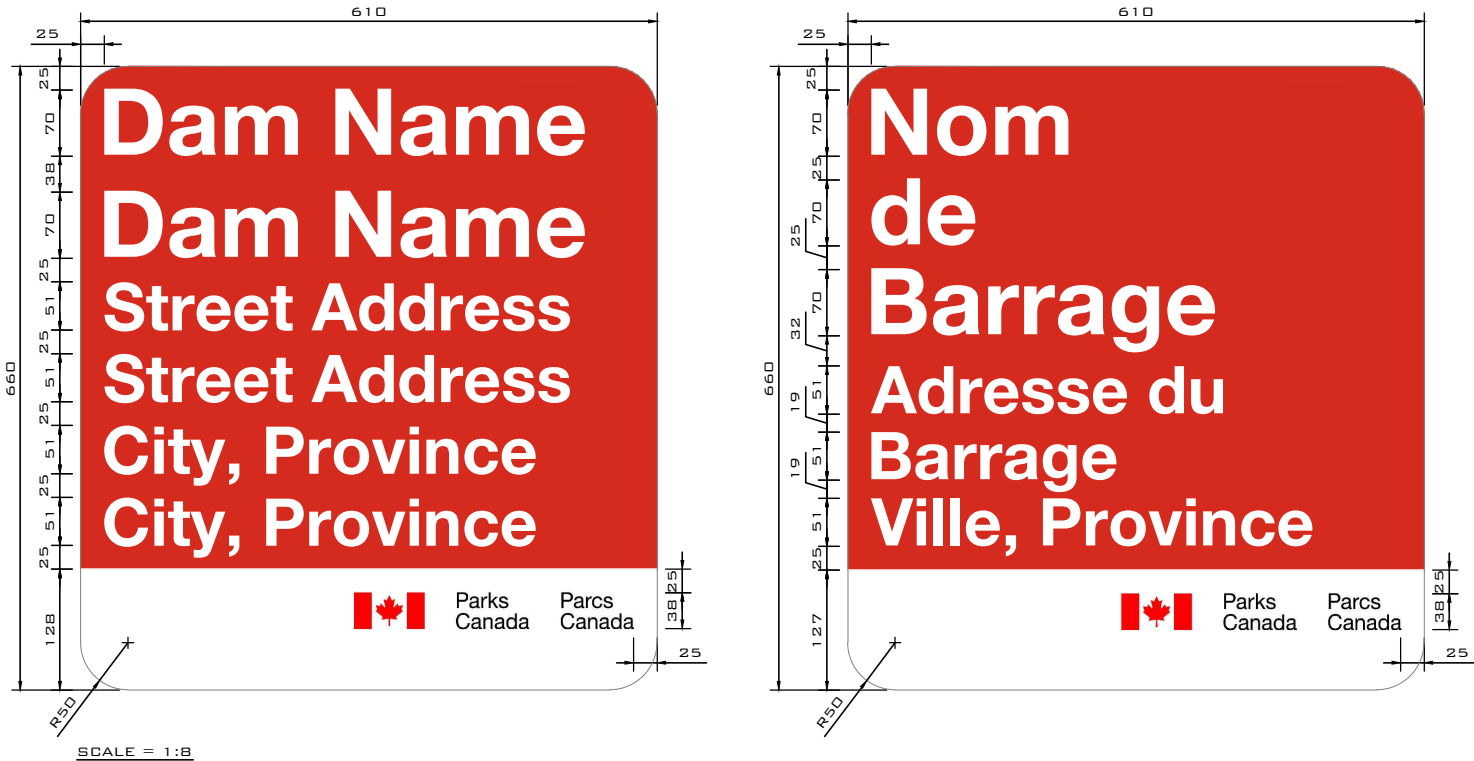
ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

2.0 FABRICATION SPECIFICATIONS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY
- 2.6 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

- 2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.



### SIGN COLOURS

	<b>SIGN BOARD BACKGROUND RED</b> PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 RGB 213/43/30 HEXIDECIMAL #D52B1E
	<b>SIGN BOARD TEXT AND BACKGROUND WHITE</b> CMYK 0/0/0/0 RGB 255/255/255 HEXIDECIMAL #FFFFFF
	<b>SIGN BOARD TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000
	<b>LOGO FLAG RED</b> PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 RGB 213/43/30 HEXIDECIMAL #33BBEE
	<b>LOGO TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000

### SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 70 mm, MIN TEXT HEIGHT 60mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DAM NAME'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 51 mm, MIN. TEXT HEIGHT 41mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 3 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'STREET ADDRESS' AND 'CITY, PROVINCE'
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA
- TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.
- +/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

**NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.**

## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

### 1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 MM (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

### 1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

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ALBERTA T&U DRAWING TEB 1.95 ( [HTTP://WWW.TU.GOV.AB.CA/CONTENT/DOCTYPE233/PRODUCTION/SIGNAGE.PDF](http://www.tu.gov.ab.ca/content/doctype233/production/signage.pdf) )

BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004  
([HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

MINISTÈRE DES TRANSPORTS DU QUÉBEC ( [HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )

### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

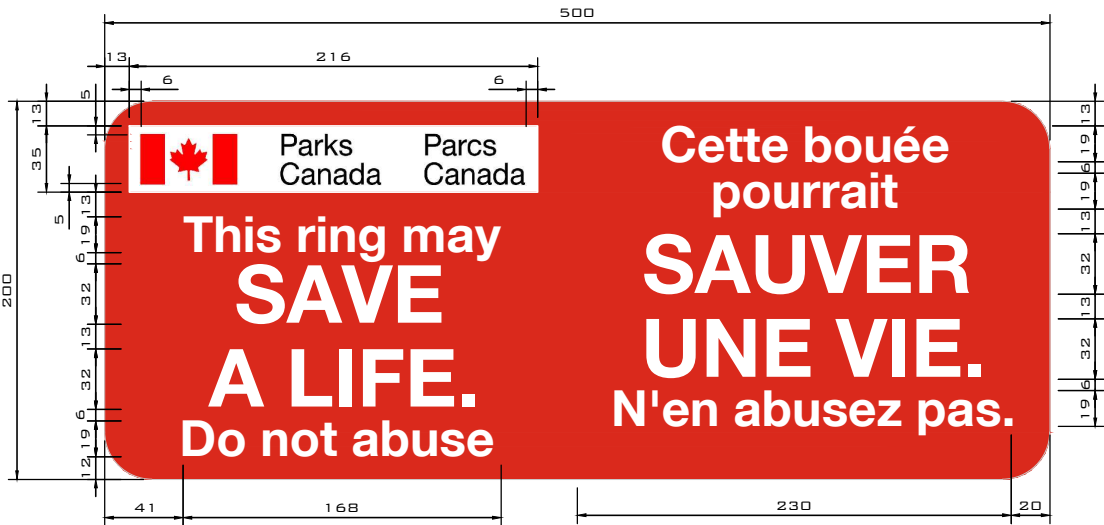
ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDD OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY
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SCALE = 1:4

## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.

1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.

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#### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS


NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.


ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.


SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.


## SIGN COLOURS

 SIGN BOARD BACKGROUND RED  
PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED  
PANTONE PMS 485 C  
CMYK 0/96/100/0  
RGB 213/43/30  
HEXDECIMAL #D52B1E

 SIGN BOARD TEXT AND BACKGROUND WHITE  
CMYK 0/0/0/0  
RGB 255/255/255  
HEXDECIMAL #FFFFFF

 SIGN BOARD TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

 LOGO FLAG RED  
PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED  
PANTONE PMS 032 C  
CMYK 0/100/100/0  
RGB 213/43/30  
HEXDECIMAL #33BBEE

 LOGO TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

## SIGN FONTS AND TEXT HEIGHTS

SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD)  
- TEXT HEIGHTS AND POSITION AS SHOWN AND CENTRE JUSTIFIED.

PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

**NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.**

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20Psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.

2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.

2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.

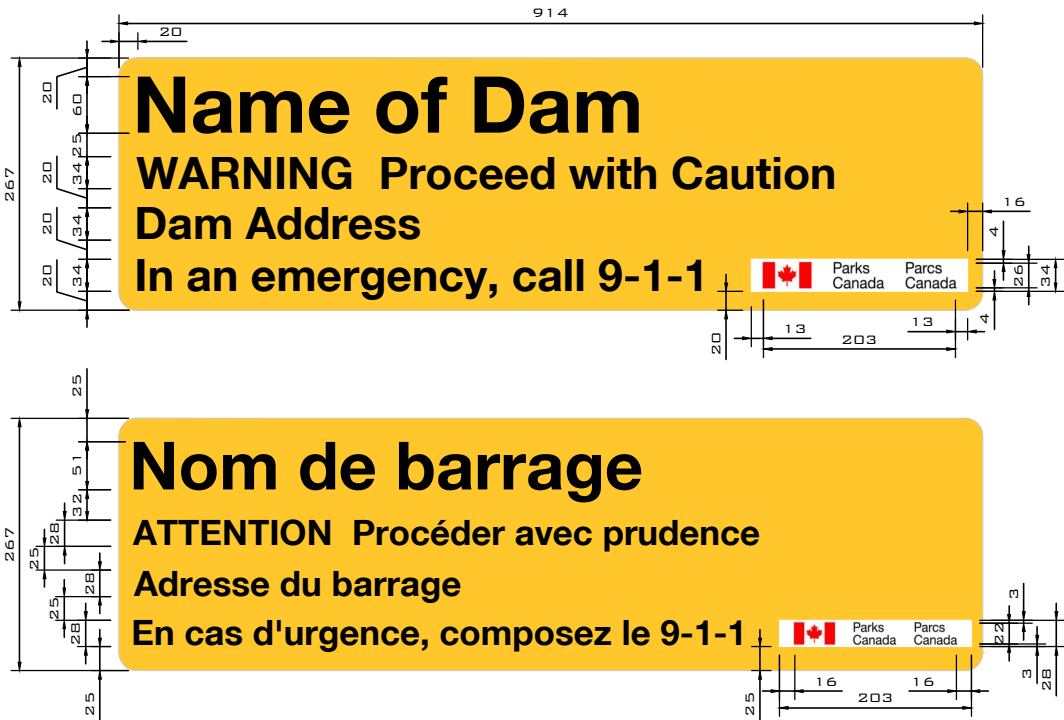
2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.

2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY

2.6 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.





SCALE = 1:8

SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

- 1.0 MATERIALS SPECIFICATIONS
- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.
- 1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS
- SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 mm (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.
- 1.5 NON-STRUCTURAL ALUMINIUM COMPOSITE SIGNS
- NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3 mm POLYETHYLENE FOAM CORE.
- ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.
- SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.
- PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.
- ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

SIGN COLOURS

- SIGN BOARD BACKGROUND YELLOW  
PANTONE COLOUR MATCHING SYSTEM NO.123 SOLID COATED  
PANTONE PMS 123 C  
CMYK 0/22/83/0  
RGB 255/199/44  
HEXIDECIMAL #FFC72C
- SIGN BOARD TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXIDECIMAL #000000
- LOGO FLAG RED  
PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED  
PANTONE PMS 032 C  
CMYK 0/100/100/0  
RGB 213/43/30  
HEXIDECIMAL #338BEE
- LOGO TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXIDECIMAL #000000

SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD); MAX TEXT HEIGHT 60 mm, MIN TEXT HEIGHT 51 mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORDS 'NAME OF DAM'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 34 mm, MIN. TEXT HEIGHT 28mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 3 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'WARNING. PROCEED WITH CAUTION', 'DAM NAME' AND 'IN AN EMERGENCY, CALL 911'
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA
- TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.
- +/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.

2.0 FABRICATION SPECIFICATIONS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS; WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (YELLOW AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY
- 2.6 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.
- 2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.



Drawing Name:

**DANGER**

**Dam Outflow**

**Keep Out**

**Name of Dam**

**In An Emergency Call (XXX) XXX-XXXX**



**Parks  
Canada**

**Parcs  
Canada**

32  
Ø 16 TYP.  
HOLE  
FOR M12  
BOLT.  
OVER  
SIZE FOR  
PLASTIC  
GROMMET  
AS REQ'D

SCALE=1:5





**DANGER**  
**Dam Ahead**  
**Keep Out**

**Name of Dam**

**In An Emergency, Call 9-1-1**



**Parks  
Canada**

**Parcs  
Canada**

SCALE= 1:5

 <b>Canada</b>	 Office of the Executive Director, Waterways Parks Canada Agency Government of Canada	<small>Project Name:</small> Graphics Designs and Materials and Fabrication Specifications for Public Safety Signs around Dams	<small>Drawing Name:</small> TYPE A1 HEADPOND DANGER SIGN - ENGLISH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	<b>A1</b> REV.2
				Checked: November 3, 2014	Checked by: S.Gauthier	
				Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

## Barrage devant

## Accès interdit

**Nom du barrage**



Parcs  
Canada

Parks  
Canada

En cas d'urgence, composez le 9-1-1

SCALE = 1 : 5

 Parks Canada 	 Office of the Executive Director, Waterways Parks Canada Agency Government of Canada	<small>Project Name:</small> Graphics Designs and Materials and Fabrication Specifications for Public Safety Signs around Dams	<small>Drawing Name:</small> TYPE A1 HEADPOND DANGER SIGN - FRENCH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	<small>Drawing No:</small> <b>A1</b> REV.2
				Checked: November 3, 2014	Checked by: S.Gauthier	
				Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

## Dam Upstream

## Keep Out

**Name of Dam**



Parks  
Canada

Parcs  
Canada

**In An Emergency, Call 9-1-1**

SCALE=1:5

	 Office of the Executive Director, Waterways	Project Name: Graphics Designs and Materials and	TYPE A7 SPILLWAY DANGER SIGN - ENGLISH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	
	Parks Canada Agency	Fabrication Specifications for		Checked: November 3, 2014	Checked by: S.Gauthier	
	Government of Canada	Public Safety Signs around Dams		Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

## Barrage en amont

## Accès interdit

**Nom du barrage**



Parcs  
Canada

Parks  
Canada

En cas d'urgence, composez le 9-1-1

SCALE= 1:5

 Parks Canada 	 Office of the Executive Director, Waterways Parks Canada Agency Government of Canada	 Project Name: Graphics Designs and Materials and Fabrication Specifications for Public Safety Signs around Dams	 Drawing Name: TYPE A7 SPILLWAY DANGER SIGN - FRENCH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	 Drawing No: <b>A7</b> REV.2
				Checked: November 3, 2014	Checked by: S.Gauthier	
				Approved: November 3, 2014	Approved by: S.Gauthier	





**DANGER**  
**Dam Outflow**  
**Keep Out**

**Name of Dam**



**In An Emergency Call (XXX) XXX-XXXX**

SCALE=1:5

 <b>Canada</b>	 Office of the Executive Director, Waterways Parks Canada Agency Government of Canada	<small>Project Name:</small> Graphics Designs and Materials and  <small>Fabrication Specifications for</small> Public Safety Signs around Dams	<small>Drawing Name:</small> TYPE A8 TAILRACE DANGER SIGN - ENGLISH  SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	<small>Drawing No:</small> <b>A8</b> REV.1
				Checked: November 3, 2014	Checked by: S.Gauthier	
				Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

Zone de décharge  
du barrage  
Accès interdit

**Nom du barrage**



Parcs  
Canada

Parks  
Canada

En cas d'urgence, composez le (XXX) XXX-XXXX

SCALE= 1:5

 Parks Canada 	 Parks Canada		Office of the Executive Director, Waterways	Project Name:	Drawing Name:	Revised: November 3, 2014	Drawn by: S.Gauthier	<b>A8</b> REV.1
			Parks Canada Agency	Fabrication Specifications for	TYPE A8 TAILRACE DANGER SIGN - FRENCH	Checked: November 3, 2014	Checked by: S.Gauthier	
			Government of Canada	Public Safety Signs around Dams	SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Approved: November 3, 2014	Approved by: S.Gauthier	



SCALE = 1 : 3



SCALE = 1 : 3



# DANGER

## Open Barrage

## Dam Ouvert

Name of Dam  
Nom du Barrage

Nom du Barrage  
Nom du Barrage

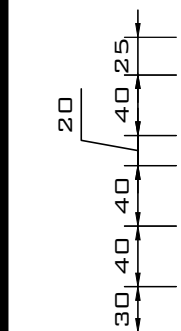


Parks  
Canada

Parcs  
Canada

In An Emergency, Call 9-1-1

En cas d'urgence, composez le 9-1-1



6

25

25

SCALE = 1:5

630



Parks Canada



Office of the Executive Director, Waterways

Graphics Designs and Materials and

Parks Canada Agency

Fabrication Specifications for

Government of Canada

Public Safety Signs around Dams

TYPE B1 OPEN DAM - BILINGUAL

SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS

Revised: November 3, 2014

Drawn by: S.Gauthier

Checked: November 3, 2014

Checked by: S.Gauthier

Approved: November 3, 2014

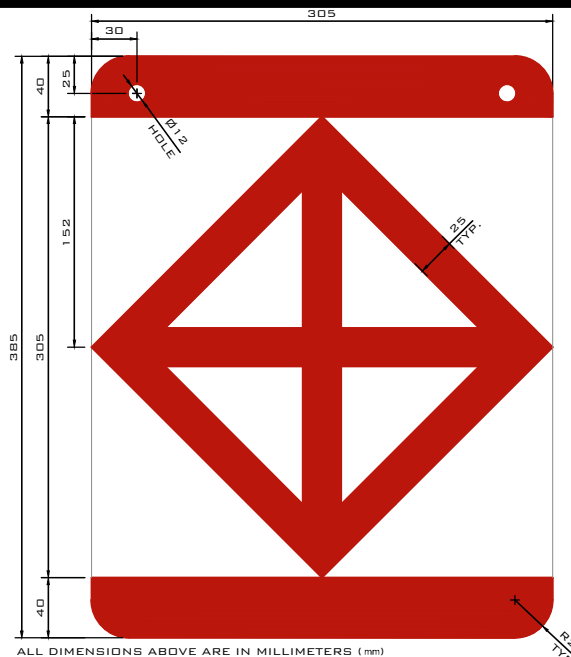
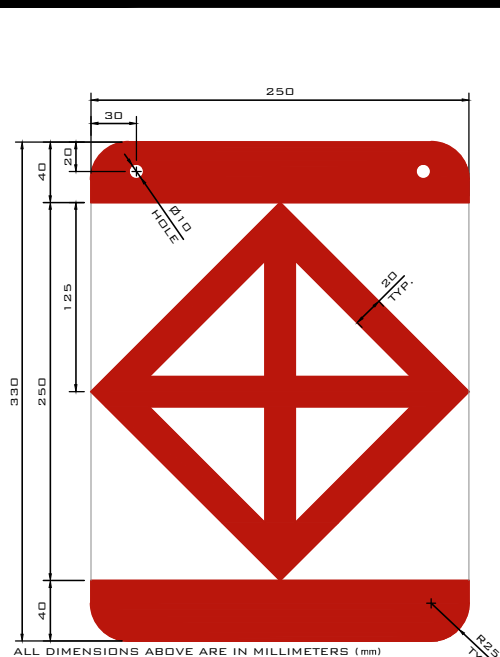
Approved by: S.Gauthier

Drawing No:

**B1**

REV.2

Canada



## SIGN COLOURS

### INTERNATIONAL ORANGE(ENGINEERING)

CMYK 0/88/94/27  
RGB 186/22/12  
HSL 3,88,39  
HEXIDECIMAL #BA160C  
US FED STD 595 - COLOUR 12197

### BACKGROUND WHITE

CMYK 0/0/0/0  
RGB 255/255/255  
HEXIDECIMAL #FFFFFF

## SIGN MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS. PLAIN MILL FINISH WILL BE ACCEPTED FOR BACK SIDE.
- 1.3 SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 1.3 MM (16 GAUGE, 0.051"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.
- 1.4 EXTERIOR GRADE PLASTIC GROMMETS ARE TO BE PROVIDED AND SIZED ACCORDINGLY FOR ALL MOUNTING HOLES SHOWN ON PLAN. GROMMETS ARE INTENDED TO ACT AS AN INSULATOR AND PREVENT DISSIMILAR METALS (GALVANIC CORROSION) REACTION BETWEEN ALUMINIUM SIGN PANEL AND STEEL MOUNTING HARDWARE. GROMMETS MUST BE NON-CONDUCTIVE AND TRANSPARENT (CLEAR) OR COLOURED TO MATCH SURROUNDING SIGN FACE.

### 2.0 FABRICATION REQUIREMENTS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 HOLES MUST BE DRILLED IN SIGNS FACES AS SHOWN ON DRAWINGS. ALL HOLES ARE TO BE DRILLED OVERSIZED AS REQUIRED FOR INSTALLATION OF PLASTIC GROMMETS.
- 2.3 EXCEPTING GROMMETS, ALL MOUNTING HARDWARE IS TO BE BY OTHERS AND NOT PART OF SIGNS FABRICATOR SCOPE OF WORK.
- 2.4 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.5 BACKGROUND COLOURING, BORDERS AND SYMBOLS MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS. RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.6 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOUR AND RETRO-REFLECTIVITY
- 2.7 SIGN BACKGROUND (WHITE) MUST BE CUT OUT AND APPLIED AS A SINGLE PIECE. SPLICES AND OVERLAPS WILL NOT BE ACCEPTED. APPLY CLEAR COATING AND EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. THE SEALER MUST BE APPLIED TO ALL EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES AS THEY WILL BE REJECTED.
- 2.8 SYMBOLS AND BORDERS (RED) MUST BE APPLIED TO THE BACKGROUND/FIELD OF THE SIGN BY THE DIRECT SILKSCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES WITHOUT BLEMISHES ON THE SIGN FIELD. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.



Canada

PARKS CANADA  
EXECUTIVE DIRECTOR'S OFFICE, WATERWAYS

Project title / Titre du projet

WATERWAYS DAMS AERIAL CABLES SIGNS

Drawing title / Titre du dessin

SIZES 250 AND 350 ALUMINIUM 'KEEP OUT' SIGNS  
GRAPHICS AND MATERIALS AND FABRICATION SPECS

Drawn by/ Dessine par

S.A.G.

Checked by/ Verifié par

M.J.M.

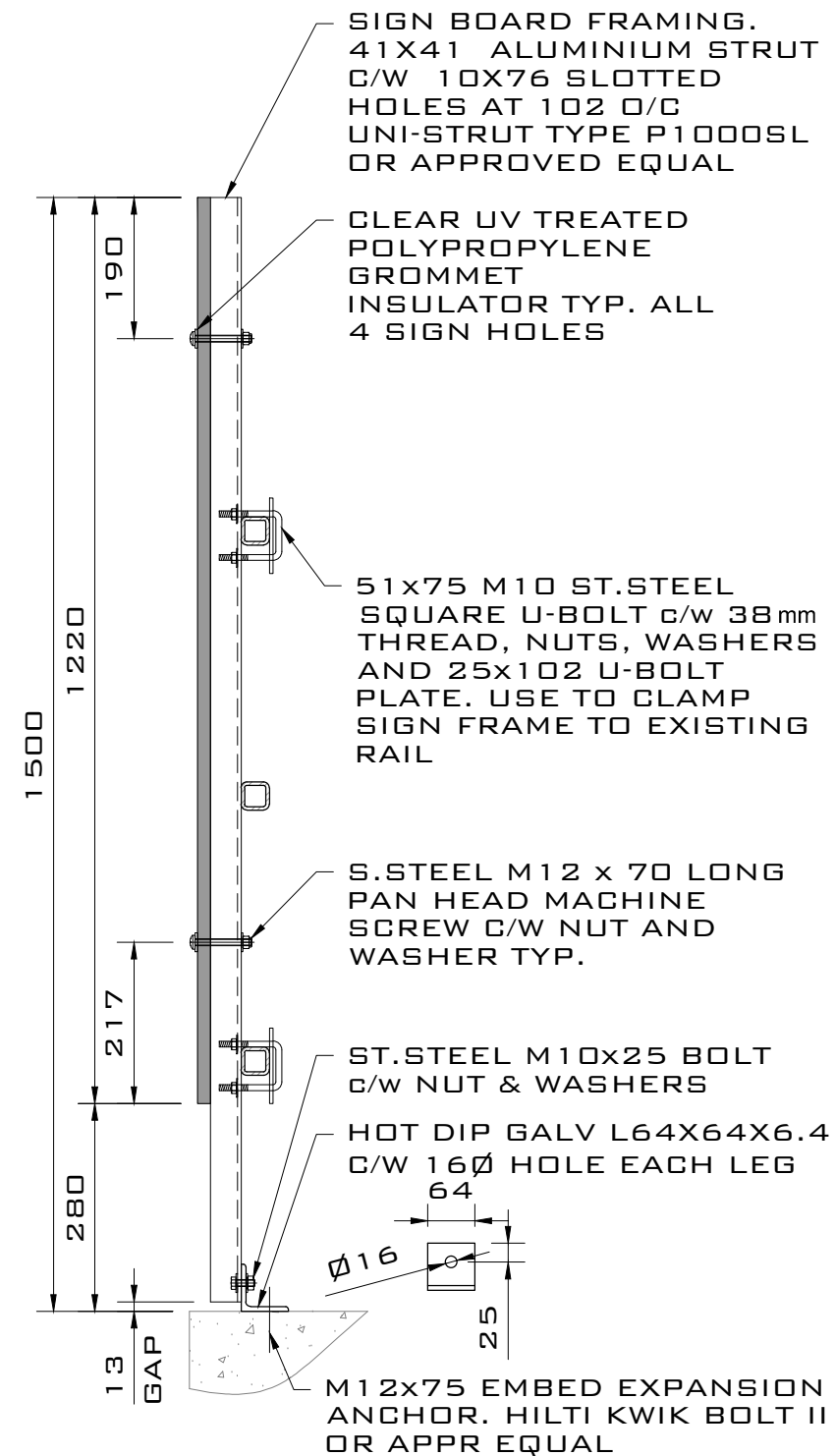
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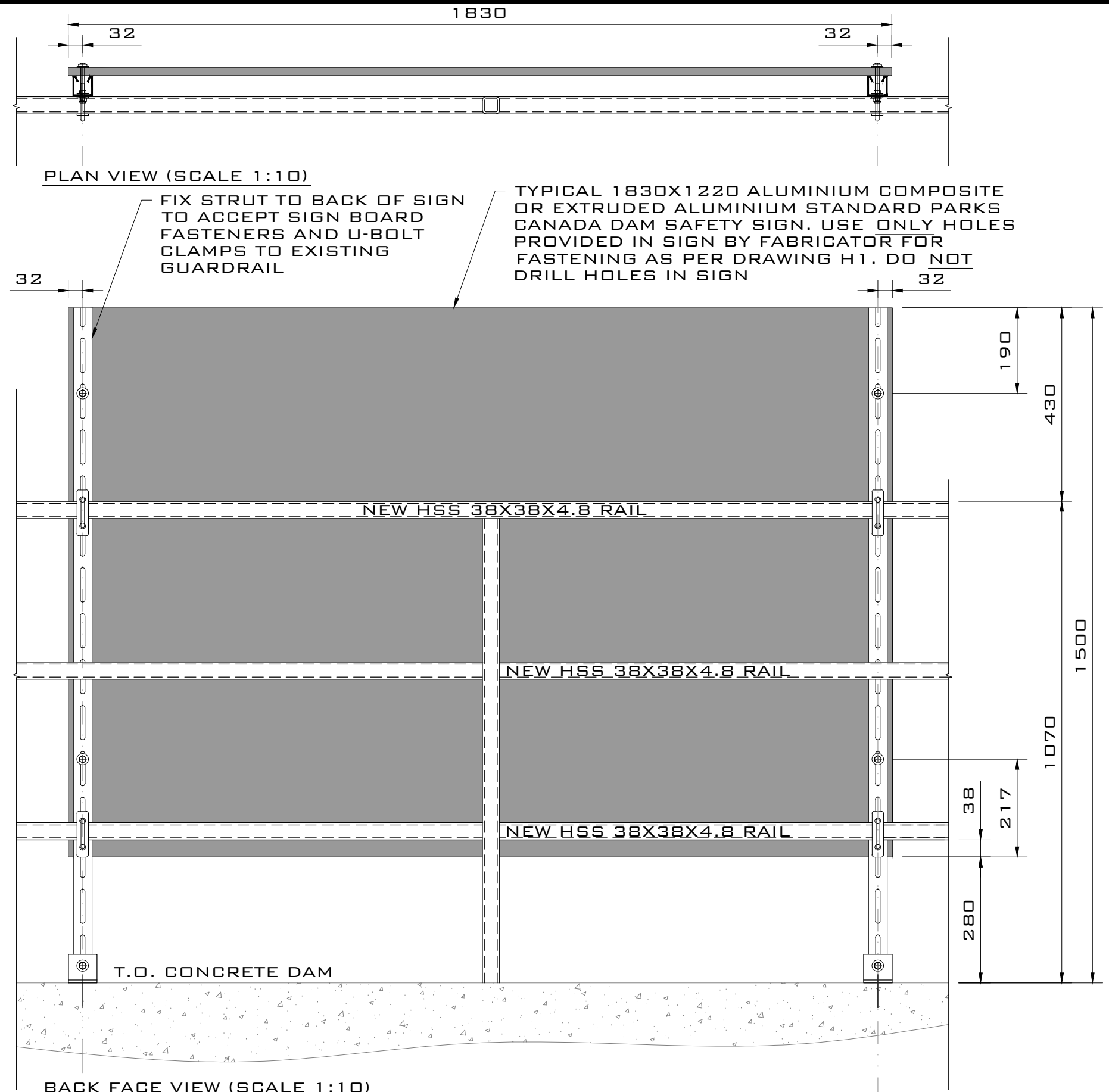
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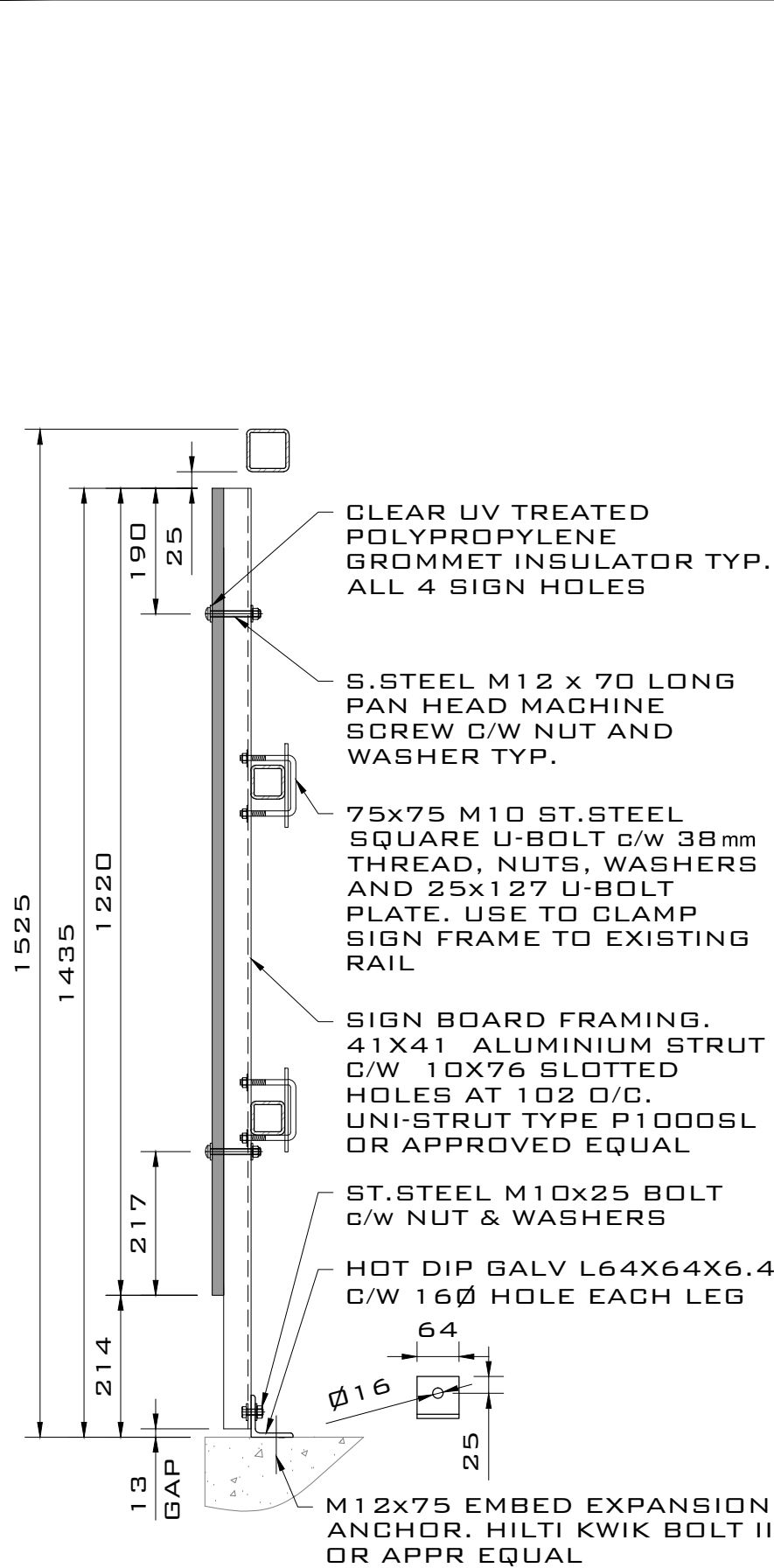
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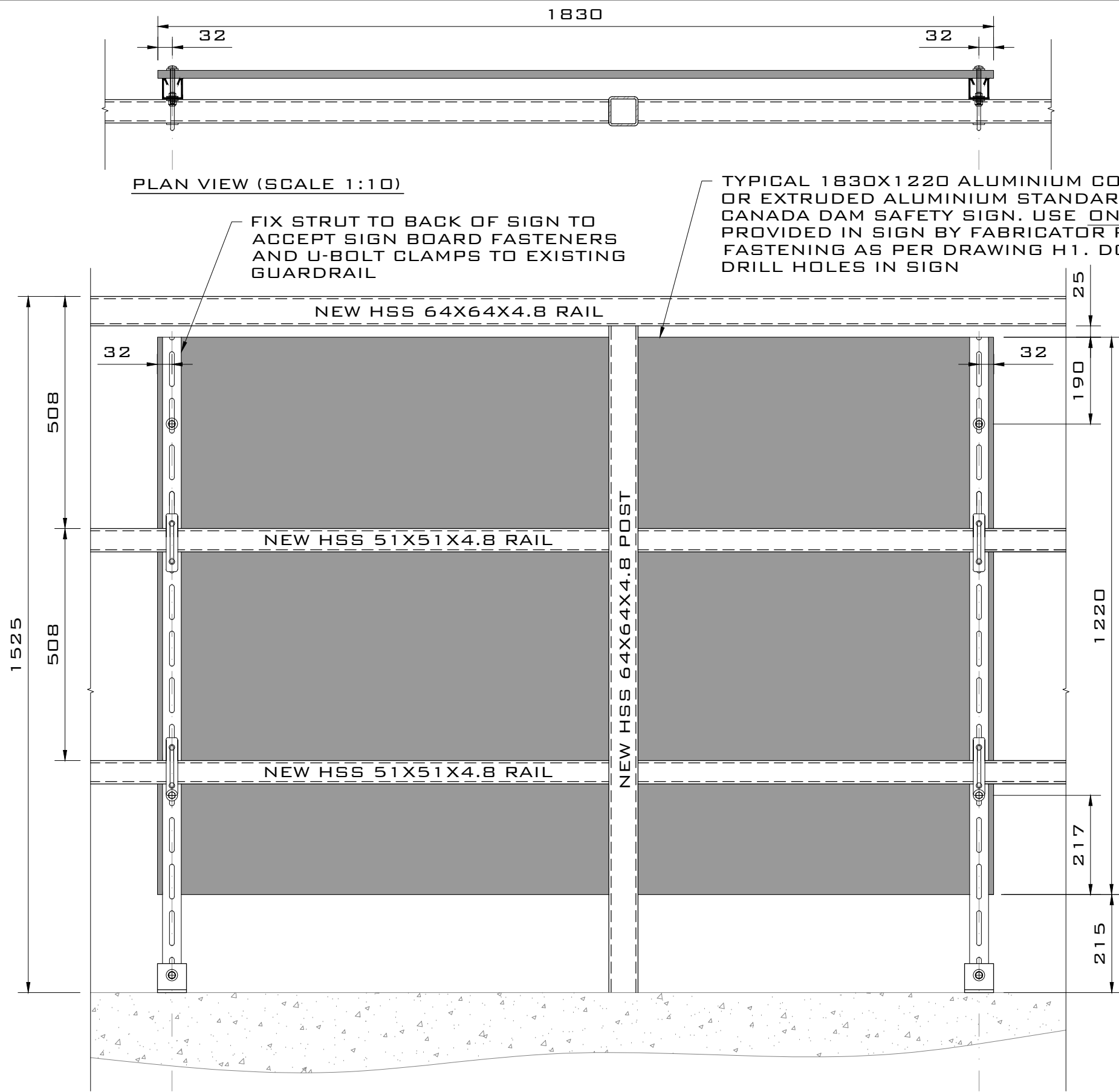


SIDE FACE VIEW (SCALE 1:10)



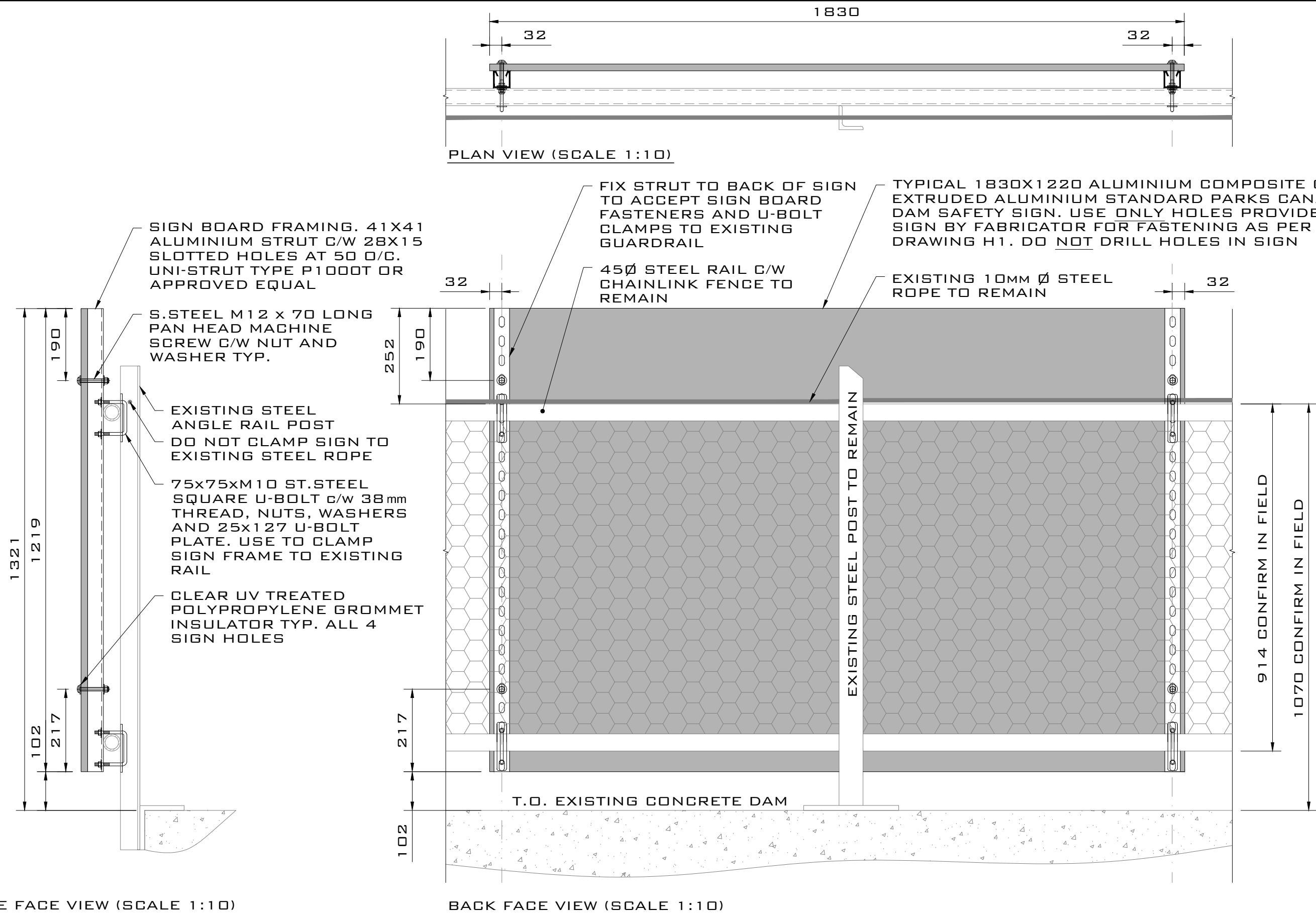


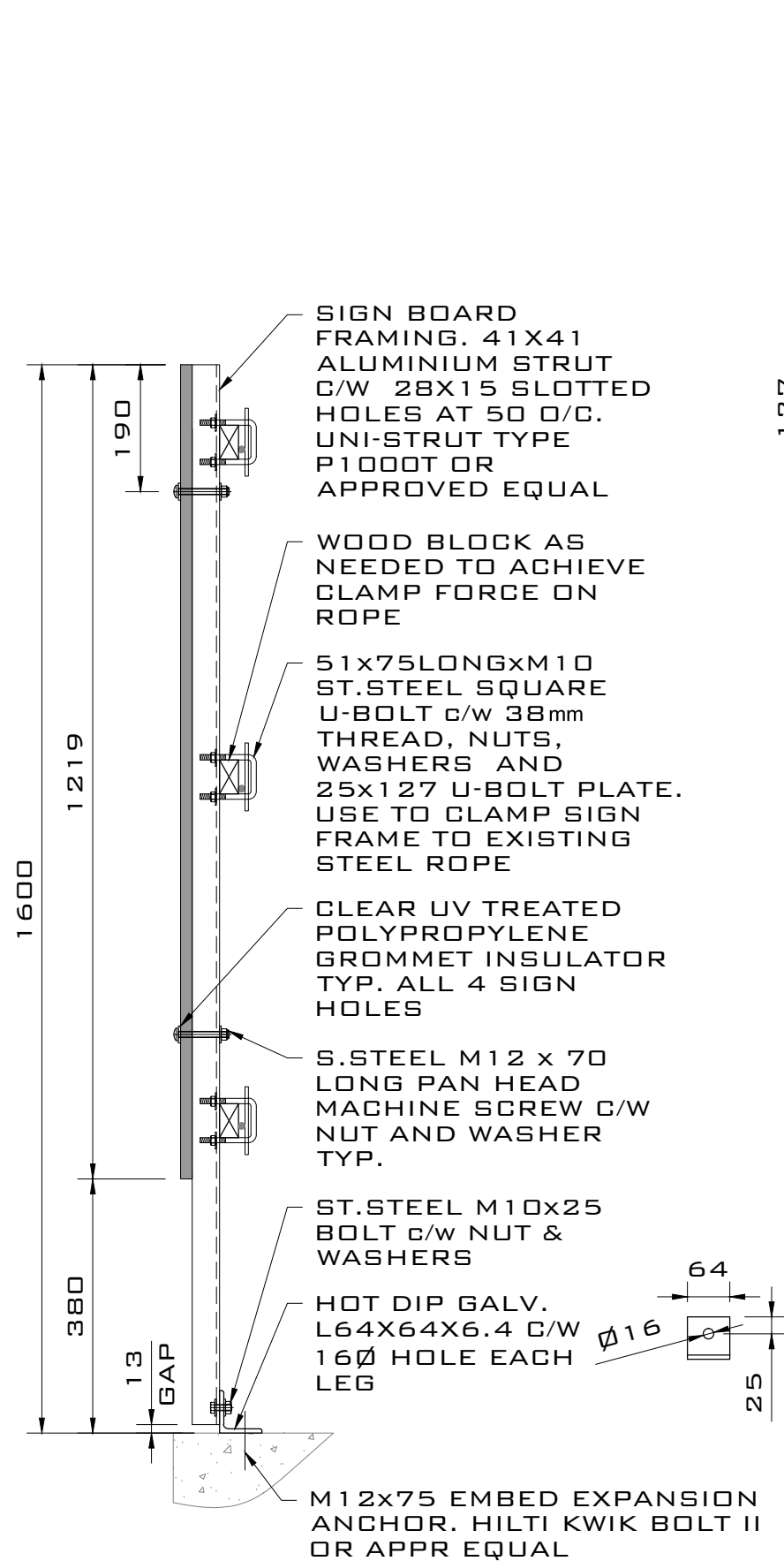
SIDE FACE VIEW (SCALE 1:10)



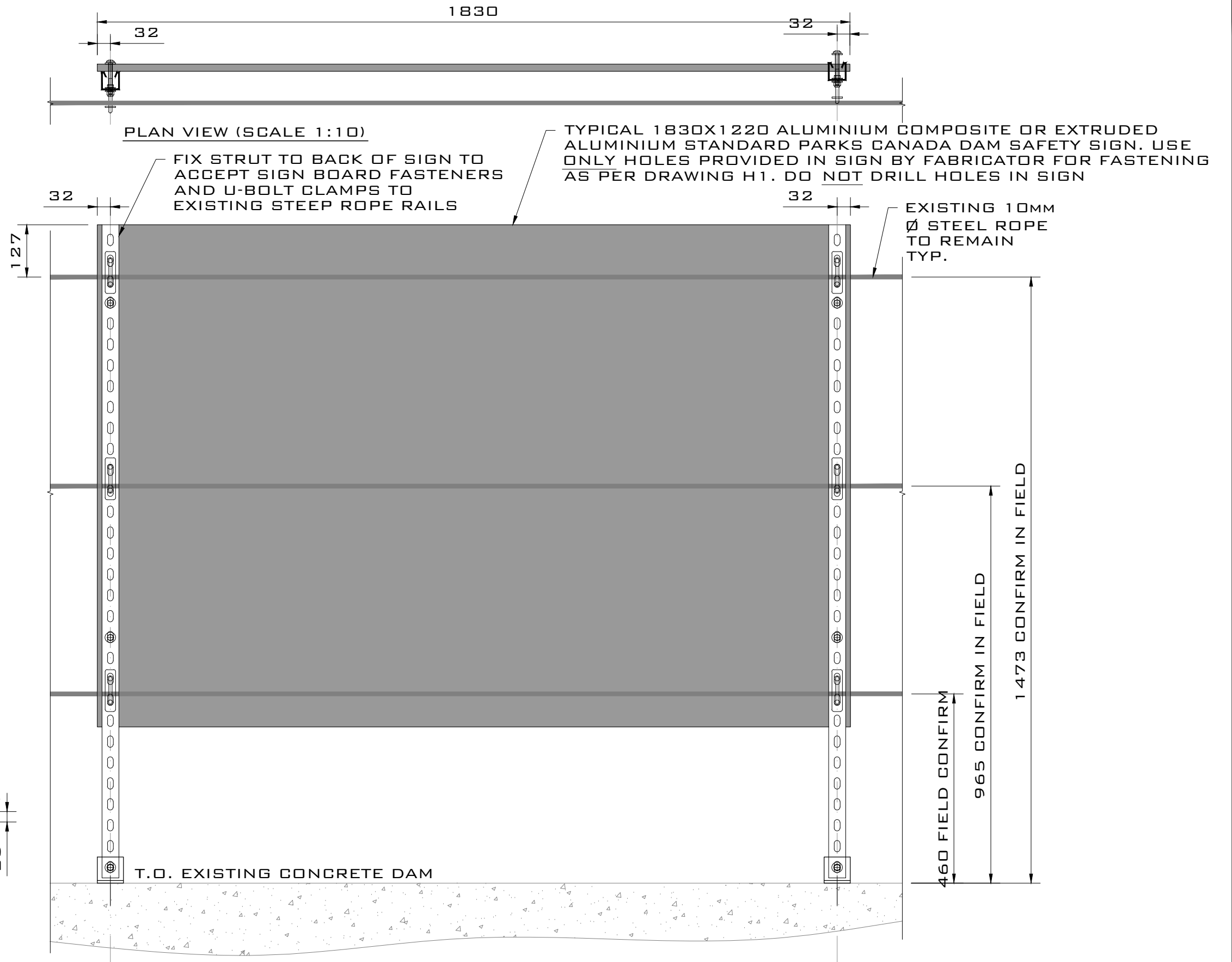
BACK FACE VIEW (SCALE 1:10)







**SIDE FACE VIEW (SCALE 1:10)**



**BACK FACE VIEW (SCALE 1:10)**