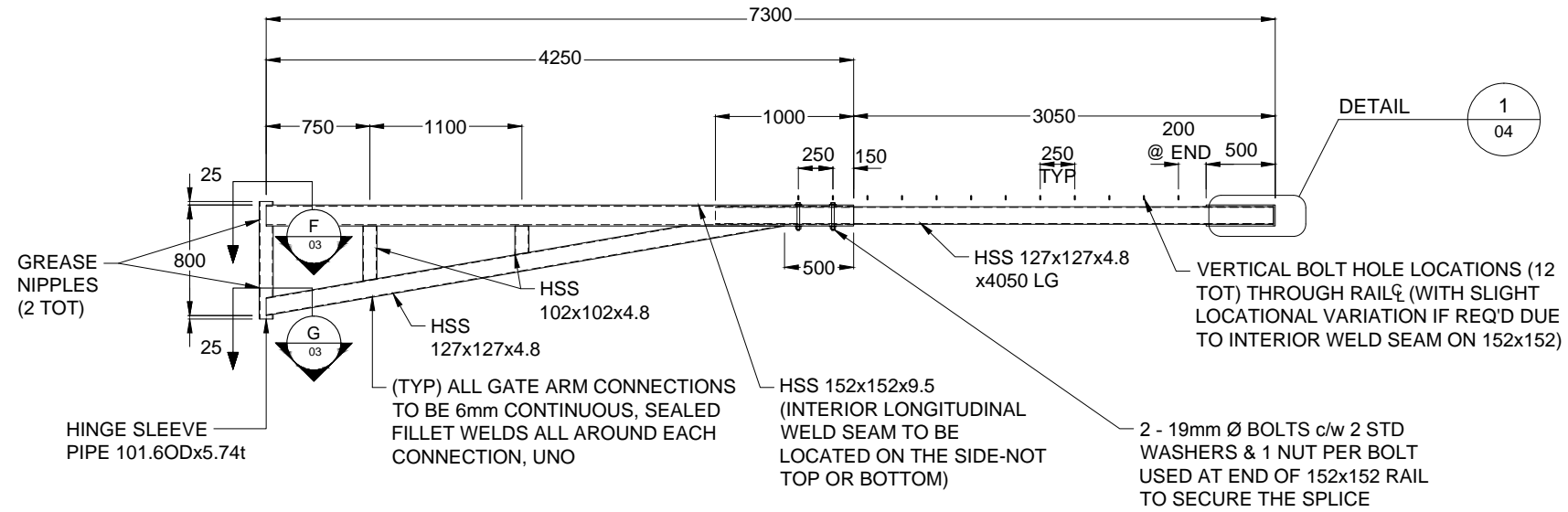
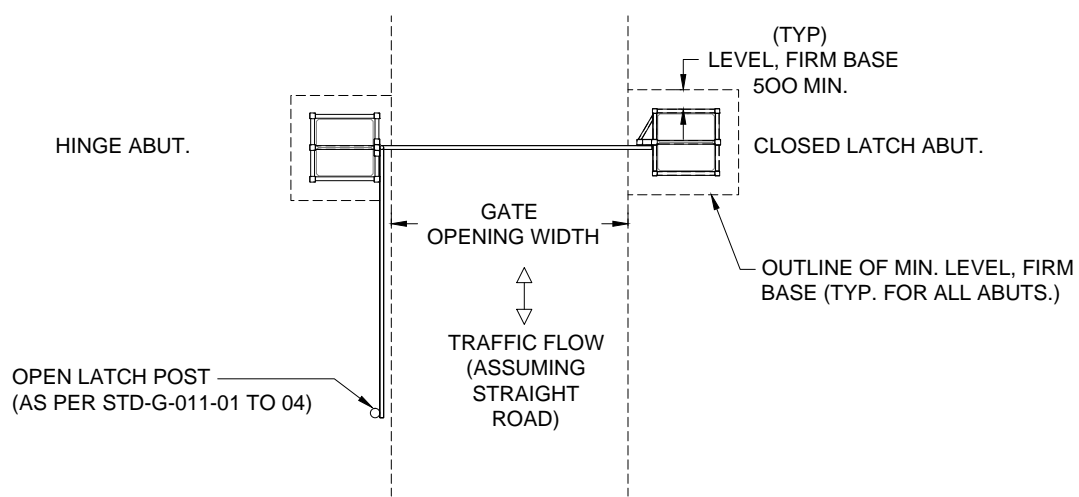


ELEVATION - GATE
1:50

NOTE: TELESCOPING GATE ARM TOTAL LENGTH CAN BE FIELD ADJUSTED TO SUIT VARIOUS ROAD WIDTHS WHEN GATE IS USED AT DIFFERENT LOCATIONS



TELESCOPING GATE ARM ELEV.
1:50



GENERAL GATE LAYOUT PLAN
1:200

NOTES

1.0 GENERAL

- THESE DRAWINGS PROVIDE STRUCTURAL DETAILS FOR FABRICATION OF ROAD CLOSURE GATES FOR INSTALLATION ON RESOURCE ROADS UNDER THE JURISDICTION OF THE BC MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS (FLNRO).
- ROADWAY DESIGN, TURNAROUND REQUIREMENTS, GATE LOCATION, GATE INSTALLATION REQUIREMENTS, ROAD AND GATE SIGNAGE, APPROACH BARRIER REQUIREMENTS, AND OVERALL SAFETY SHALL BE DETERMINED BY AN INDIVIDUAL THAT TAKES RESPONSIBILITY FOR GATE INSTALLATION AT A SPECIFIC SITE. ANY INSTALLATION OR SIGNAGE REQUIREMENTS SHOWN ON THESE DRAWINGS MUST BE REVIEWED AND AMENDED AS NECESSARY BY THE RESPONSIBLE INDIVIDUAL.
- STANDARD CHECKERBOARD SIGNS SHALL BE ATTACHED, CENTRALLY, TO THE GATE ARM FOR VISIBILITY WHEN THE GATE IS CLOSED. ALL ABUTMENTS SHALL HAVE REFLECTIVE TAPE ATTACHED, FULL LENGTH, TO THE CORNER POSTS ADJACENT TO THE ROADWAY, AND TO ANY COMPONENTS OF THE ABUTMENTS THAT PROTRUDE FURTHER INTO THE ROADWAY WHEN THE GATE IS OPEN. REFLECTIVE TAPE SHALL ALSO BE ATTACHED TO THE GATE ARM, WHERE FEASIBLE, CONSIDERING ANY REQUIRED TELESCOPING ACTION. REFLECTIVE TAPE SHALL BE YELLOW/BLACK OR WHITE/BLACK STRIPED, MIN. 100 mm WIDE, HIGH STRENGTH ROADWAY DELINEATION TAPE, APPLIED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS AFTER PAINTING. REFLECTIVE TAPE AND CHECKERBOARD SIGNS SHALL BE VISIBLE TO TRAFFIC FROM EACH DIRECTION.
- TWO INTERLOCKING CONCRETE BLOCKS (SIDE BY SIDE) MINIMUM SHALL BE USED PER ABUTMENT. FOUR BLOCKS SHALL BE USED PER ABUTMENT IF INCREASED RESISTANCE TO MOVEMENT BY VANDALS IS REQUIRED. FOUR BLOCKS RECOMMENDED FOR HINGE ABUTMENT WHEN TOTAL GATE ARM LENGTH > 6 m TO RESIST ABUTMENT OVERTURNING DUE TO GATE ARM CANTILEVER FORCES.
- GATE ARM MUST BE LATCHED/SECURED AT ALL TIMES (OPEN OR CLOSED) TO ENSURE AGAINST SPEARING OF VEHICLES FROM AN UNSECURED ARM.
- ABUTMENTS SHALL NOT BE LIFTED WITH CONCRETE BLOCKS INSIDE.

2.0 MATERIALS

- HSS: Fy MIN. 345MPa, CSA G40.21M OR ASTM A500 GRADE C (BOTH SEAMED)
- PLATE: Fy MIN. 300W OR 350W, CSA G40.21M
- BOLTS: ASTM 307 GALV
- ROUND BAR: ASTM A36
- NUTS: ASTM A563 GALV
- STANDARD WASHERS: ASTM F844 GALV
- HINGE PIPES: ASTM A53 GR B (SEAMED) OR ASTM A106 GR B (SEAMLESS)
- CONCRETE BLOCKS: IN ACCORDANCE WITH THE MINISTRY "BRIDGE COMPONENT CONCRETE STANDARD" LOCATED AT: <http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/bridge-design-construction/brcompconstd.pdf>

3.0 FABRICATION

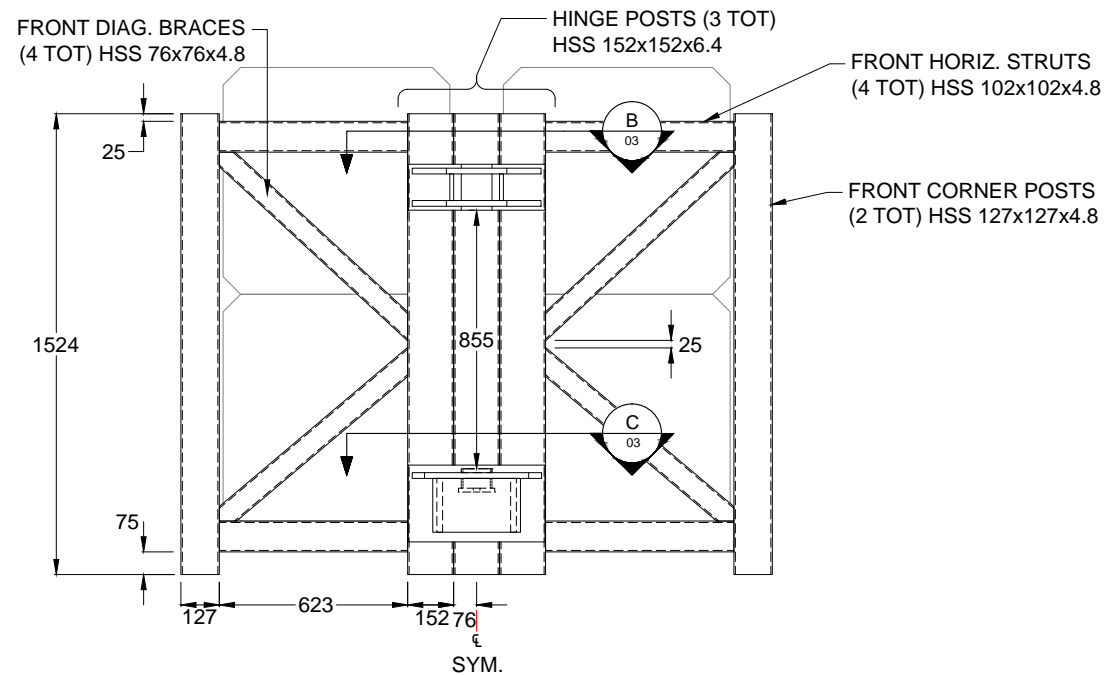
- UNLESS NOTED OTHERWISE, ALL WELDS SHALL BE 6 mm IN SIZE.
- NO EXPOSED SHARP CORNERS PERMITTED ON STEEL COMPONENTS.
- WELDING SHALL BE IN ACCORDANCE WITH CSA W59 BY A COMPANY CERTIFIED TO CSA W47.1 FOR DIVISION 1, 2, OR 3
- ALL STEEL GATE COMPONENTS SHALL HAVE THEIR EXTERIOR PAINTED, EXCEPT AS NOTED HEREIN, IN ACCORDANCE WITH THE MINISTRY "STEEL GUARDRAIL COMPONENT PAINT STANDARD" LOCATED AT: <http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/steeldrailpaintstd.pdf>
- COMPONENTS NOT TO BE PAINTED INCLUDE: PORTION OF HINGE PIN PIPE BELOW ITS CAP, LATCH PIN CHAIN, LATCH PIN, LOCK KEEPERS, INTERIOR OF HINGE BASE COLLAR, INTERIOR OF HINGE TOP COLLAR, GROUND ANCHOR PINS.
- EXTERIOR OF UNPAINTED PORTION OF HINGE PIN PIPE TO BE SANDBLASTED AS PER PAINT SPECIFICATION.
- FABRICATOR SHALL ENSURE THAT ALL COMPONENTS FIT APPROPRIATELY AND MOVE OR ROTATE EASILY AND SMOOTHLY AS REQUIRED TO MEET THE REQUIRED FUNCTION. IF ACTUAL STEEL PIECES OBTAINED BY THE FABRICATOR DO NOT FUNCTION APPROPRIATELY, IT SHALL BE THE RESPONSIBILITY OF THE FABRICATOR TO REPLACE OR MODIFY THE PIECES AT NO COST TO THE MINISTRY. ANY SUCH MODIFICATIONS OR REPLACEMENTS REQUIRE PRIOR APPROVAL BY THE MINISTRY. FABRICATOR SHALL PAY PARTICULAR ATTENTION TO THIS REQUIREMENT WHEN ORDERING HINGE PIPES AND TELESCOPING GATE ARM HSS PIECES (IF TELESCOPING SPECIFIED) DUE TO THE POSSIBILITY OF EXCESSIVELY PROTRUDING INTERIOR LONGITUDINAL WELD SEAMS.
- GATE SHALL BE COMPLETELY ASSEMBLED AND APPROPRIATE FUNCTIONING SHALL BE ENSURED BY FABRICATOR PRIOR TO DISASSEMBLY AND SHIPMENT TO THE MINISTRY.

ASSUME NOT TO SCALE
ORIGINAL SIGNED AND SEALED

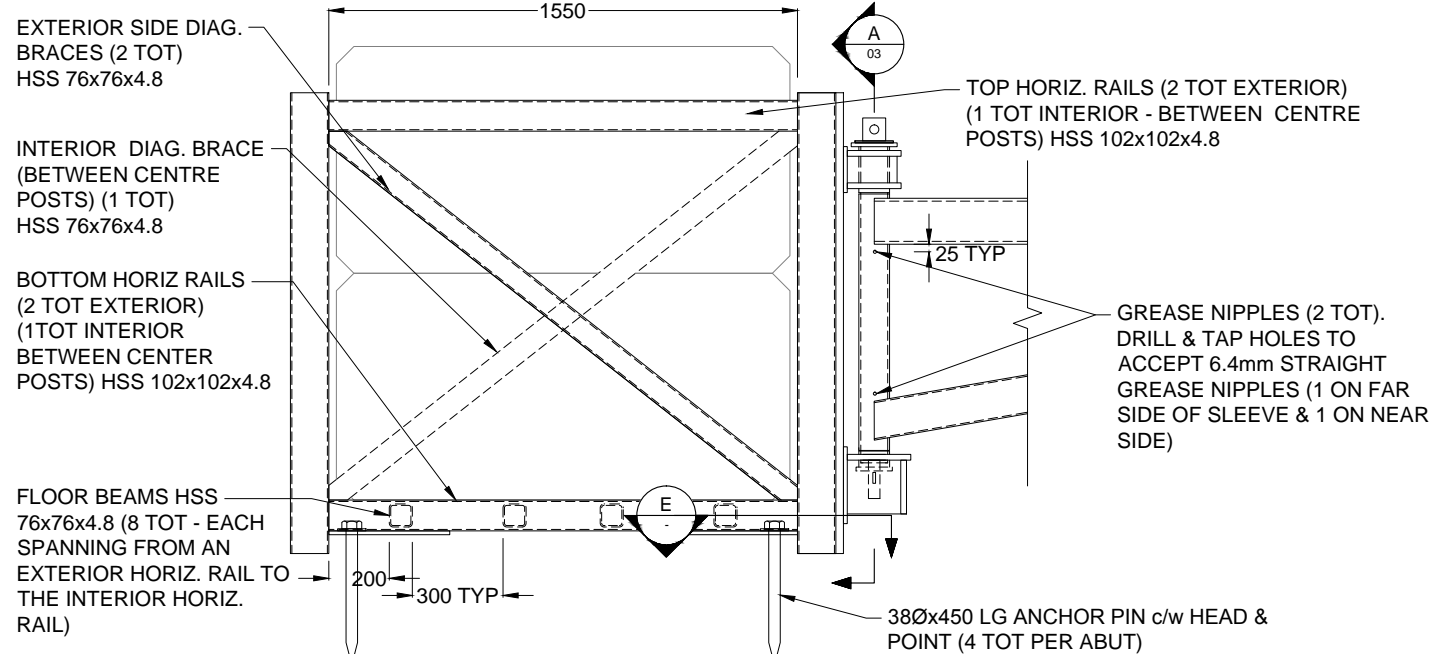


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		Checked	G.M.	Date	June 1, 2017
		Drawn	N.H.	Date	June 1, 2017
REV	DATE	DESCRIPTION	INITIAL		
REVISIONS					

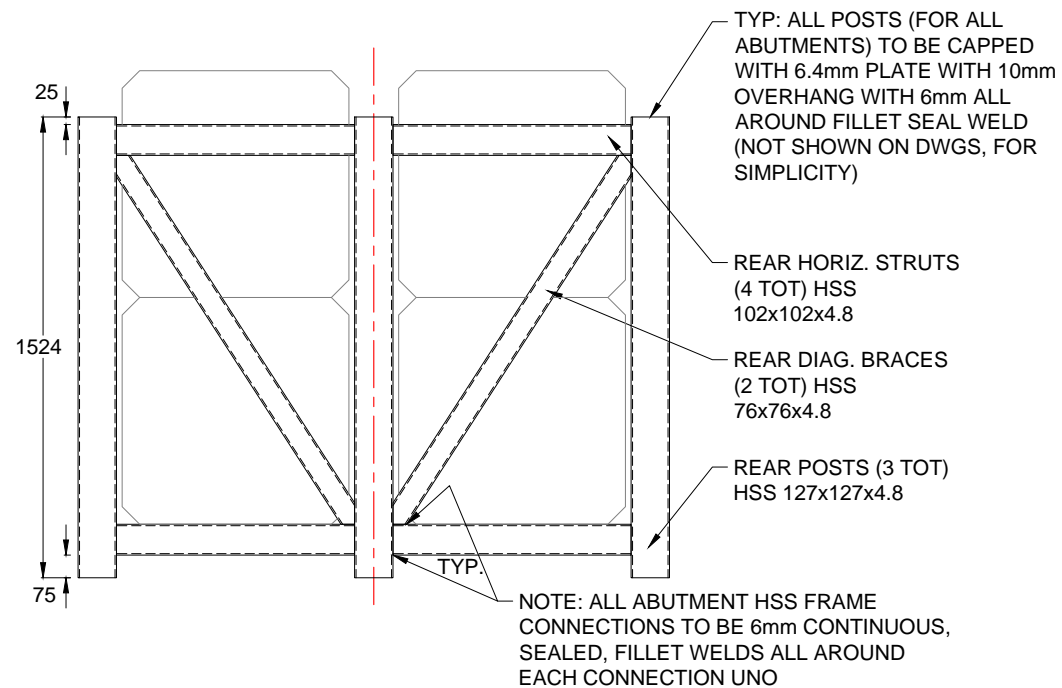
STANDARD GATE DRAWING	
STANDARD SURFACE MOUNTED ROAD CLOSURE GATE - DWG.1 OF 4	
ORIGINAL SIGNED and SEALED BY: M. PENNER, P.ENG.	APPROVED BY: B. CHOW, P.ENG. CHIEF ENGINEER
FILE NUMBER:	DRAWING NUMBER: STD-G-010-01
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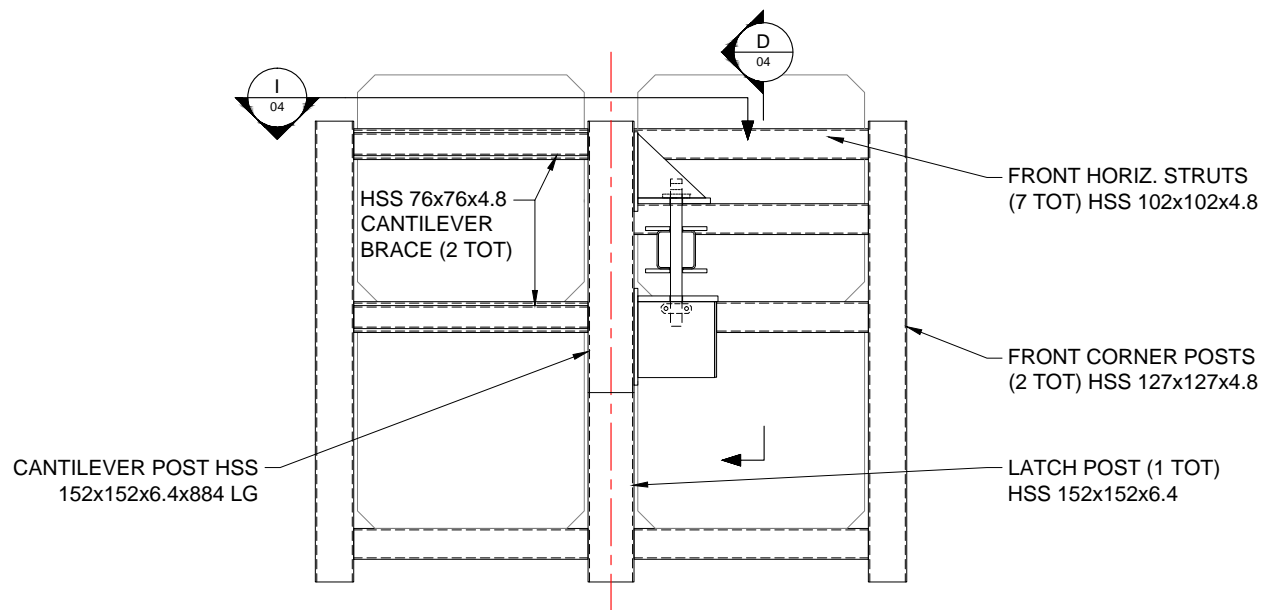
HINGE ABUT FRONT ELEV.
1:25
(HINGE PIN & GATE ARM NOT SHOW FOR CLARITY)



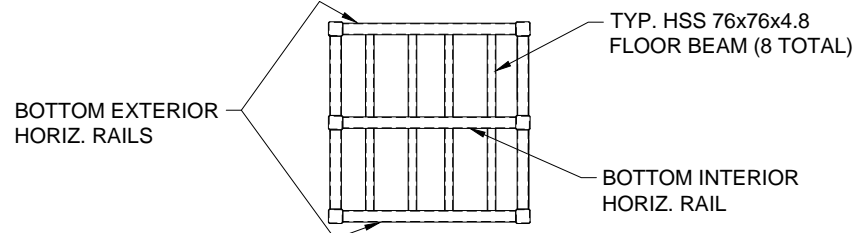
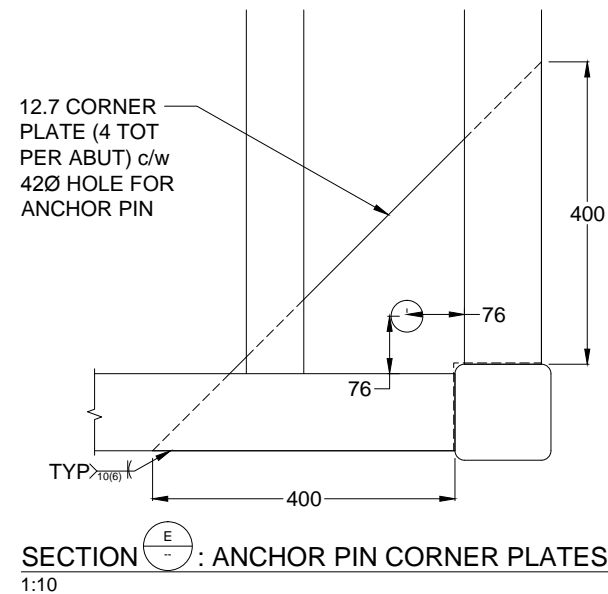
HINGE ABUTMENT SIDE ELEV
1:25
(CLOSED LATCH ABUT SIDE ELEV SIM - EXCEPT FOR HINGE ATTACHMENTS SHOWN)



TYP. ABUTMENT REAR ELEV.
1:25



CLOSED LATCH ABUT FRONT ELEV.
1:25



APPROX. PLAN VIEW OF TYPICAL ABUTMENT BASE SHOWING FLOOR BEAM LAYOUT
NTS (CONCRETE BLOCKS & HINGE/LATCH DETAILS NOT SHOWN)

ASSUME NOT TO SCALE
ORIGINAL SIGNED AND SEALED



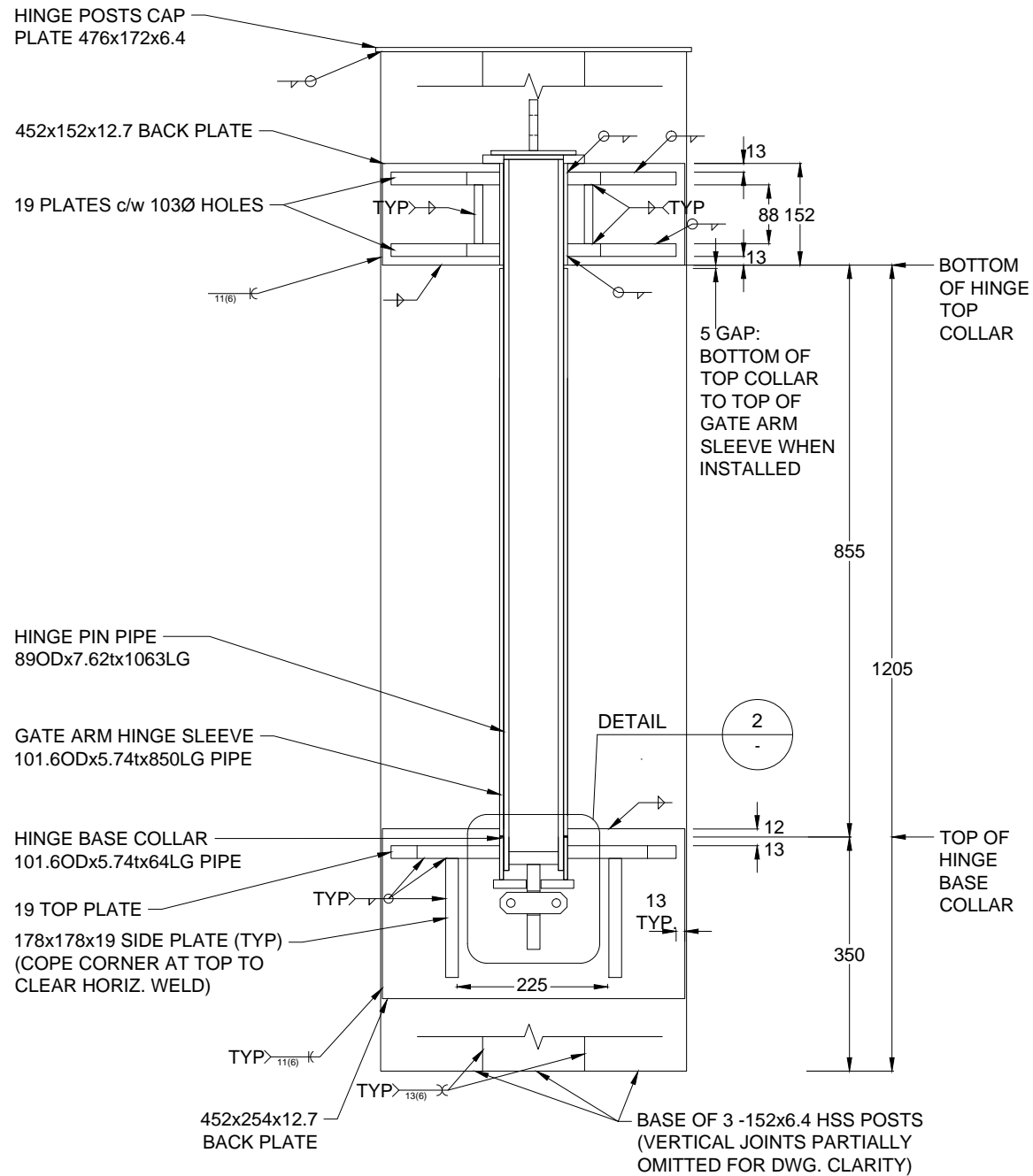
STANDARD GATE DRAWING

STANDARD SURFACE MOUNTED ROAD CLOSURE GATE - DWG.2 OF 4

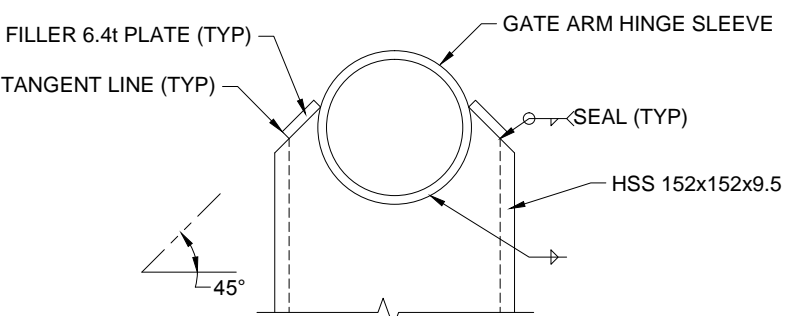
ORIGINAL SIGNED and SEALED BY: M. PENNER, P.ENG. APPROVED BY: B. CHOW, P.ENG. CHIEF ENGINEER

FILE NUMBER: DRAWING NUMBER: STD-G-010-02

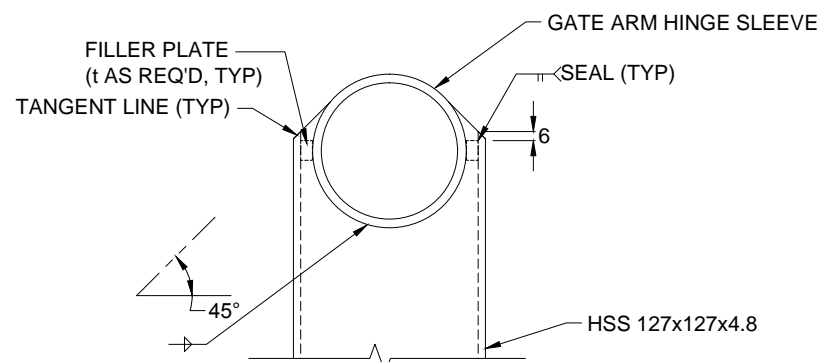
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		Checked	G.M.	Date	June 1, 2017
		Drawn	N.H.	Date	June 1, 2017
REV	DATE	DESCRIPTION	INITIAL		
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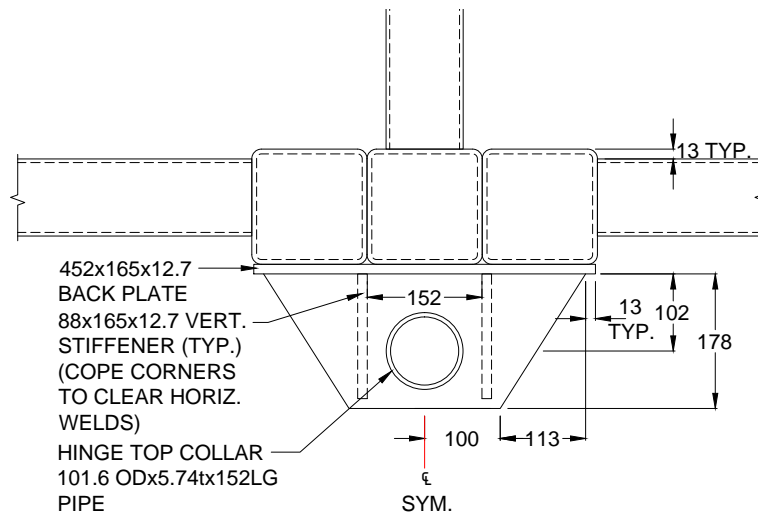
SECTION $\frac{A}{02}$:HINGE ASSEMBLY (SHOWING PIN & GATE ARM SLEEVE)
1:10



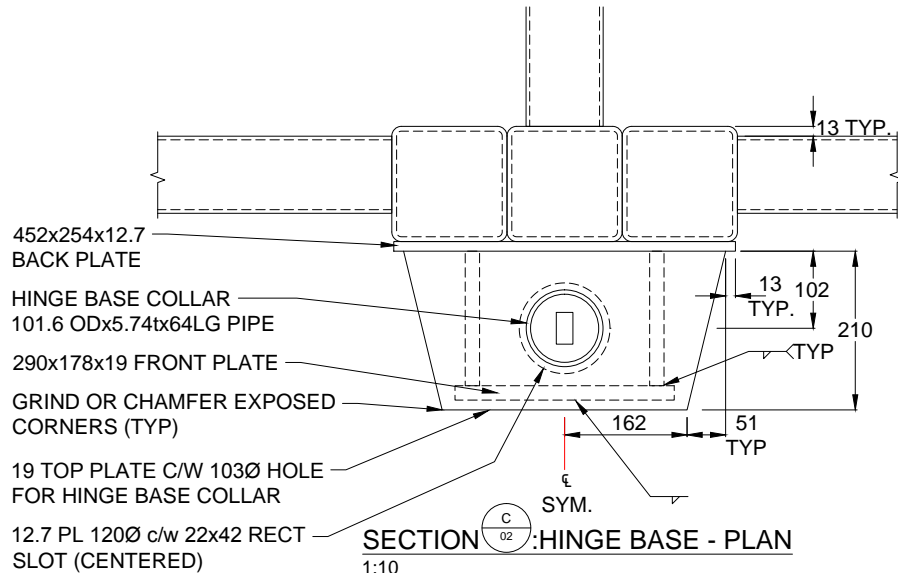
SECTION $\frac{F}{01}$: GATE ARM HINGE SLEEVE TO TOP RAIL CONNECTION
1:5



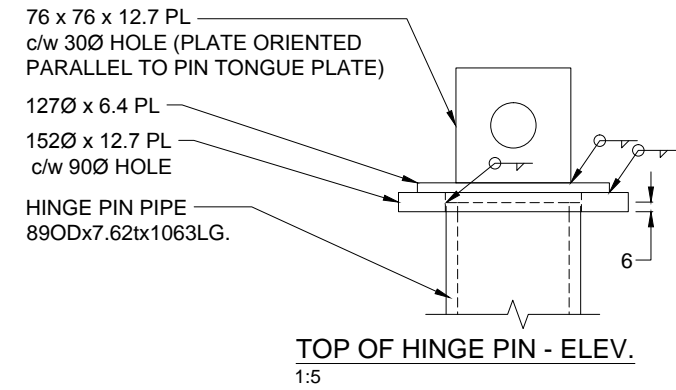
SECTION $\frac{G}{01}$: GATE ARM HINGE SLEEVE TO ANGLED BRACE CONNECTION
1:5



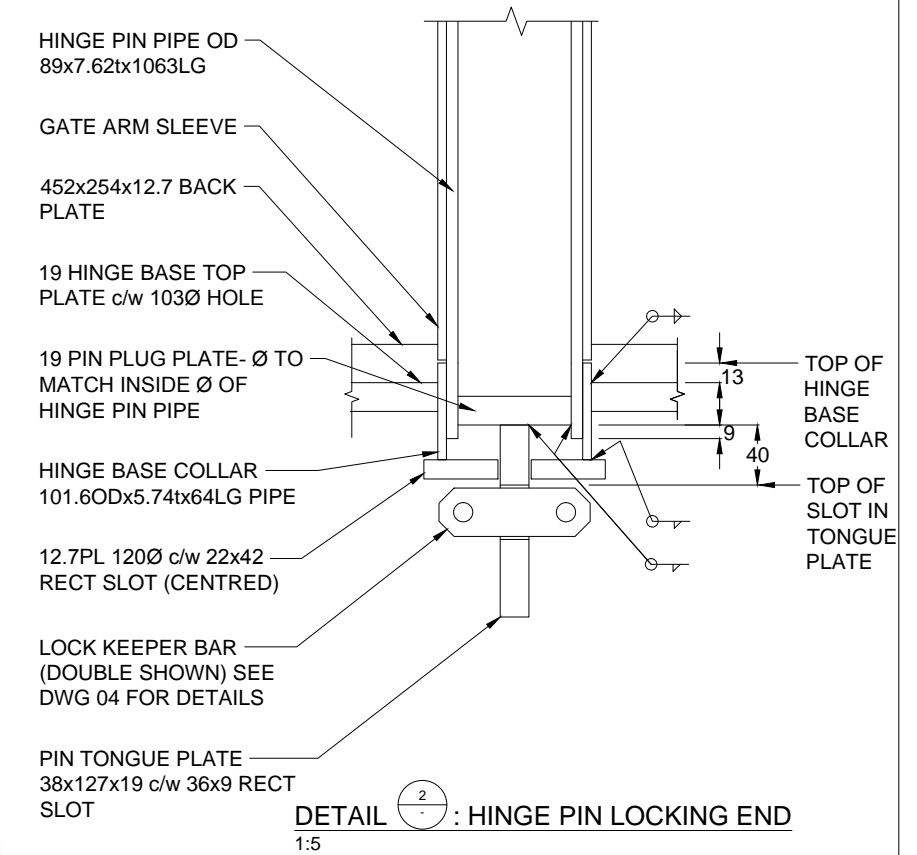
SECTION $\frac{B}{02}$:UPPER HINGE PIN HOLDER - PLAN
1:10



SECTION $\frac{C}{02}$:HINGE BASE - PLAN
1:10



TOP OF HINGE PIN - ELEV.
1:5



DETAIL $\frac{2}{}$: HINGE PIN LOCKING END
1:5

ASSUME NOT TO SCALE
ORIGINAL SIGNED AND SEALED

SCALE	AS SHOWN	Designed	M.P.	Date	JUNE 1, 2017
		Checked	G.M.	Date	JUNE 1, 2017
		Drawn	N.H.	Date	JUNE 1, 2017
REV	DATE	DESCRIPTION	INITIAL		
REVISIONS					

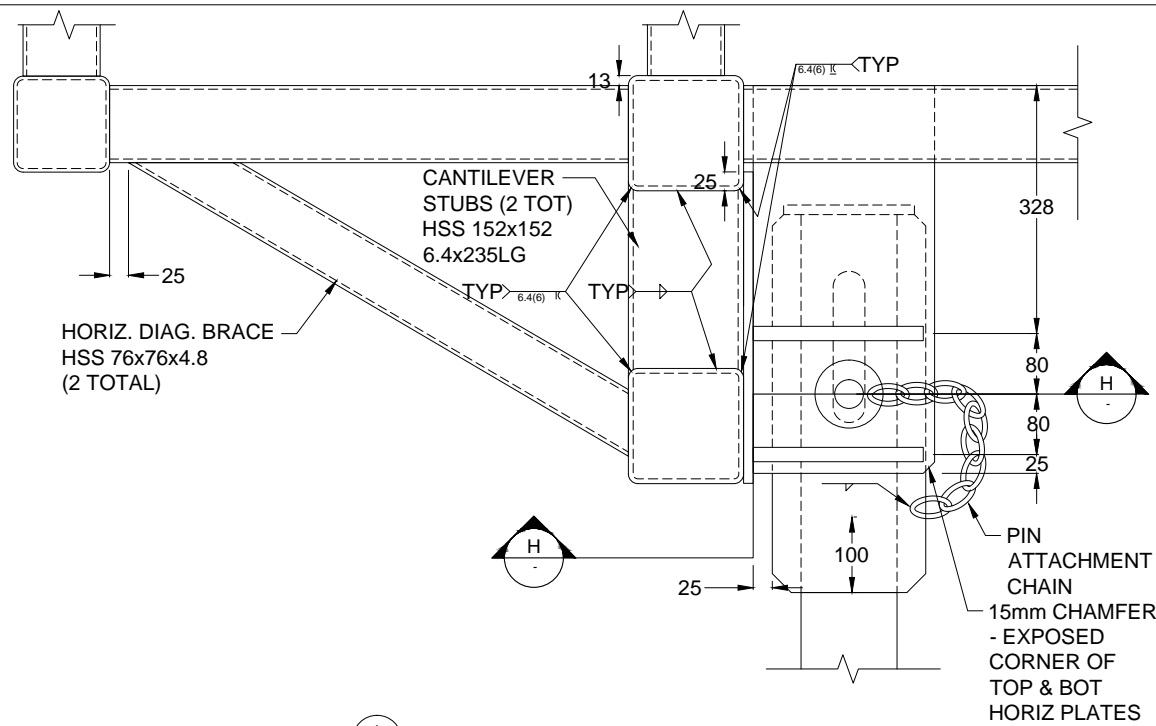
BRITISH COLUMBIA
 MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS

STANDARD GATE DRAWING

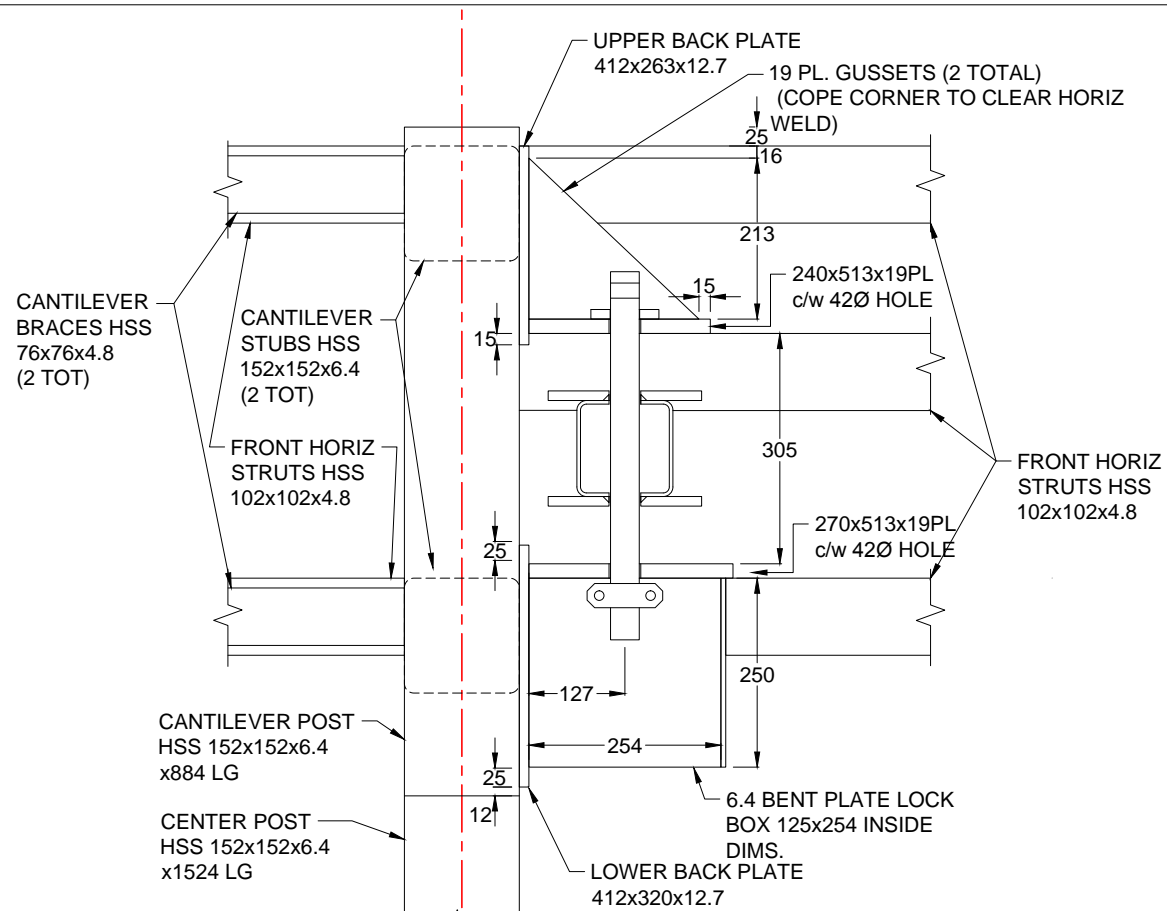
STANDARD SURFACE MOUNTED ROAD CLOSURE GATE - DWG.3 OF 4

ORIGINAL SIGNED and SEALED BY: M. PENNER, P.ENG.	APPROVED BY: B. CHOW, P.ENG. CHIEF ENGINEER
FILE NUMBER:	DRAWING NUMBER: STD-G-010-03

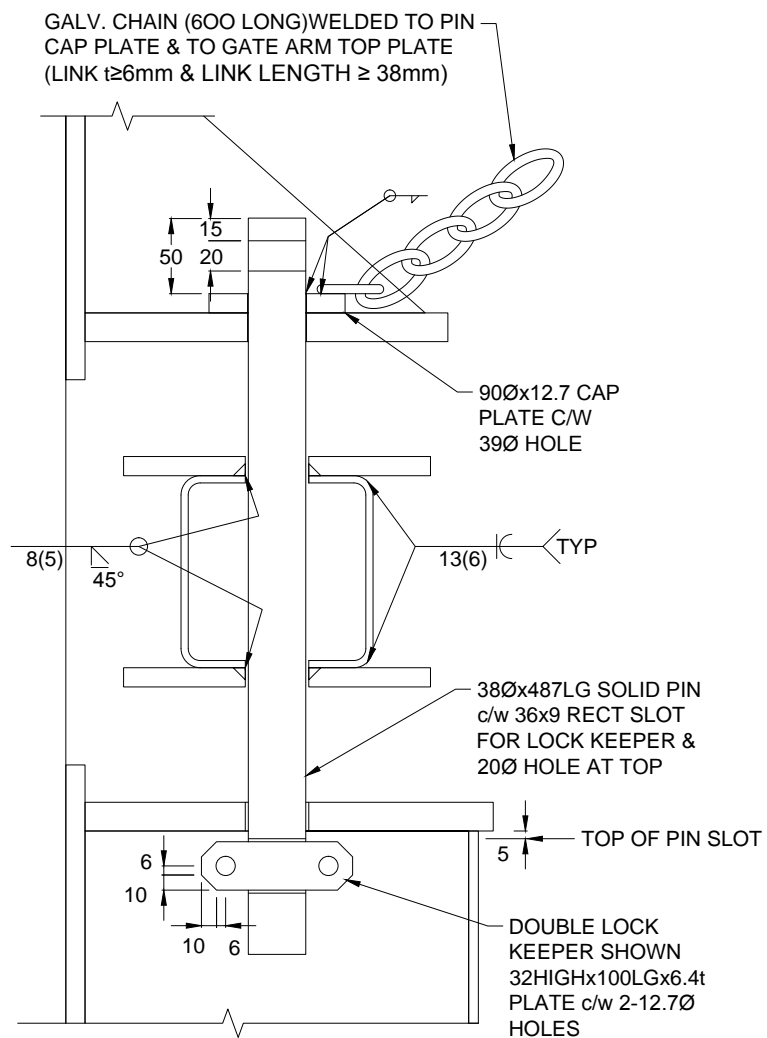
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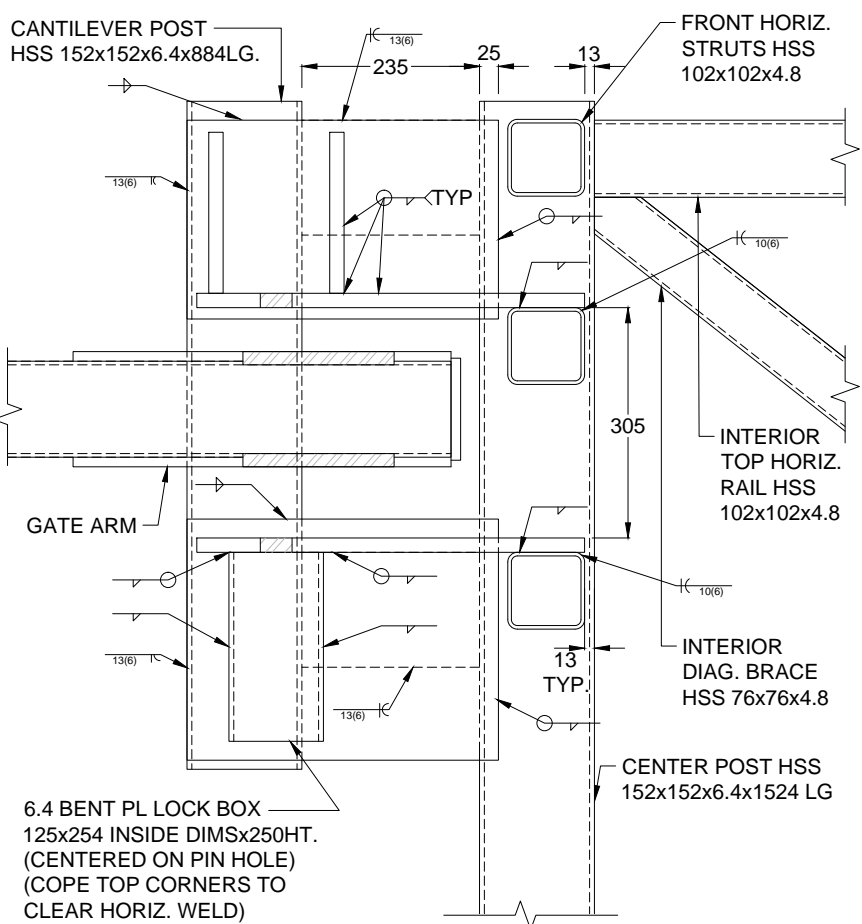
SECTION $\frac{1}{2}$: LATCH ASSEMBLY - PLAN VIEW
1:10 (LOCK BOX COMPONENTS NOT SHOWN FOR CLARITY)



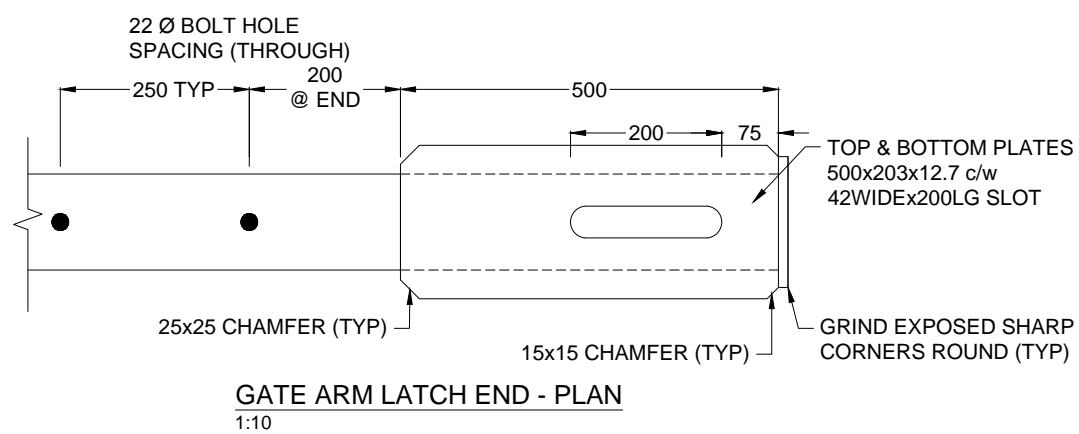
SECTION $\frac{1}{3}$: LATCH ASSEMBLY (SHOWING PIN & GATE ARM)
1:10



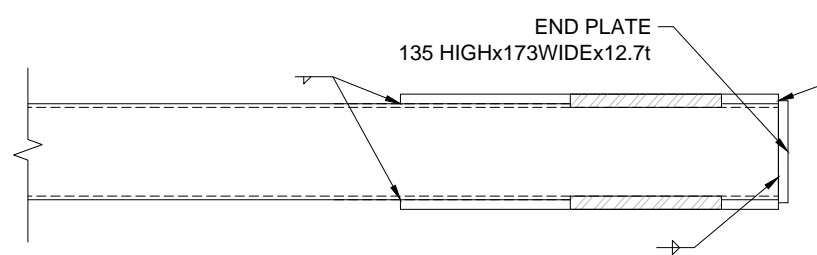
MISC. LATCHING PIN & GATE ARM END DETAILS
1:5



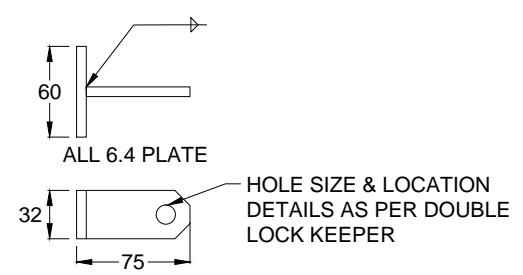
SECTION $\frac{1}{2}$: CLOSED LATCH ABUT. - SIDE ELEV.
1:10 (PIN NOT SHOWN FOR CLARITY)



GATE ARM LATCH END - PLAN
1:10



DETAIL $\frac{1}{01}$: GATE ARM LATCH END - ELEV.
1:10



ALTERNATE SINGLE LOCK KEEPER DETAILS
1:5

SCALE AS SHOWN		Designed M.P. Date June 1, 2017	<p style="text-align: center;">ASSUME NOT TO SCALE ORIGINAL SIGNED AND SEALED</p>
		Checked G.M. Date June 1, 2017	
		Drawn N.H. Date June 1, 2017	
REV	DATE	DESCRIPTION	INITIAL
REVISIONS			

BRITISH COLUMBIA		MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS	
STANDARD GATE DRAWING			
STANDARD SURFACE MOUNTED ROAD CLOSURE GATE - DWG.4 OF 4			
ORIGINAL SIGNED and SEALED BY: M. PENNER, P.ENG.		APPROVED BY: B. CHOW, P.ENG. CHIEF ENGINEER	
FILE NUMBER:		DRAWING NUMBER: STD-G-010-04	
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