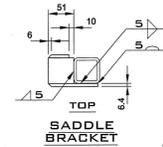
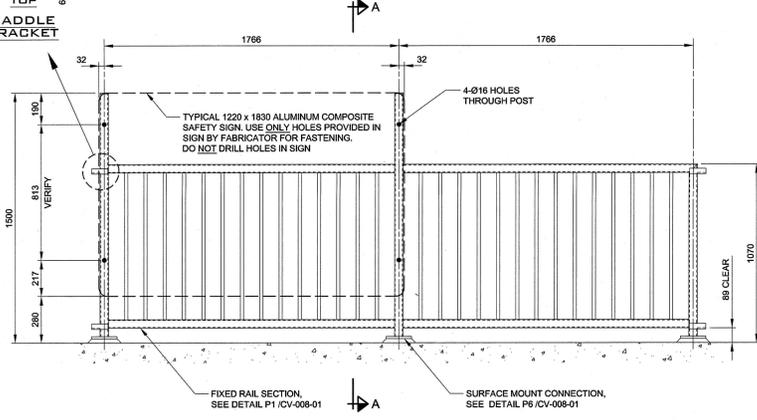


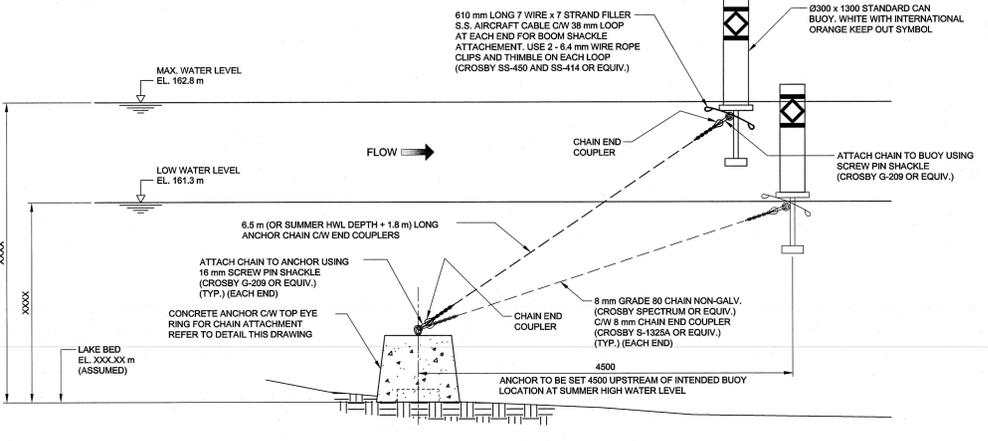
SIGN SCHEDULE (SIGNS PROVIDED BY PARKS CANADA, CONTRACTOR TO INSTALL) ALL OTHER ITEMS PROVIDED AND INSTALLED BY CONTRACTOR					
SIGN IMAGE	SIGN DESIGNATION	SIZE (mm)	MATERIAL	QUANTITY	LOCATION
	B1	1220 x 1830	ALUMINUM COMPOSITE	2	UPSTREAM ON GUARDRAIL REFER TO DWG No. CV-007-01
	A8 E	1220 x 1830	ALUMINUM COMPOSITE	1	DOWNSTREAM ON GUARDRAIL REFER TO DWG No. CV-007-01
	A8 F	1220 x 1830	ALUMINUM COMPOSITE	1	DOWNSTREAM ON GUARDRAIL REFER TO DWG No. CV-007-01
	G3 E	267 x 914	ALUMINUM COMPOSITE	1	ON ACCESS GATE REFER TO DWG No. CV-007-01
	G3 F	267 x 914	ALUMINUM COMPOSITE	1	ON ACCESS GATE REFER TO DWG No. CV-007-01
	G5	200 x 500	ALUMINUM COMPOSITE	2	ON SINGLE POST LIFE RING MOUNTS REFER TO DWG No. CV-007-01
	G9	508 x 736	ALUMINUM COMPOSITE	1	ON ACCESS GATE REFER TO DWG No. CV-007-01



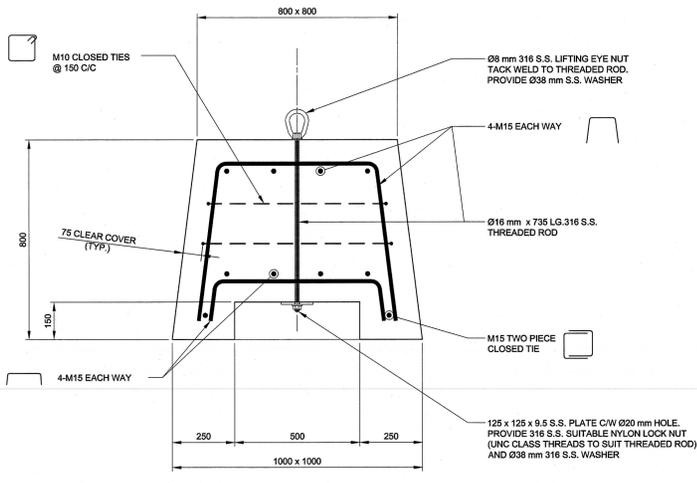
SECTION A-A  
1:15



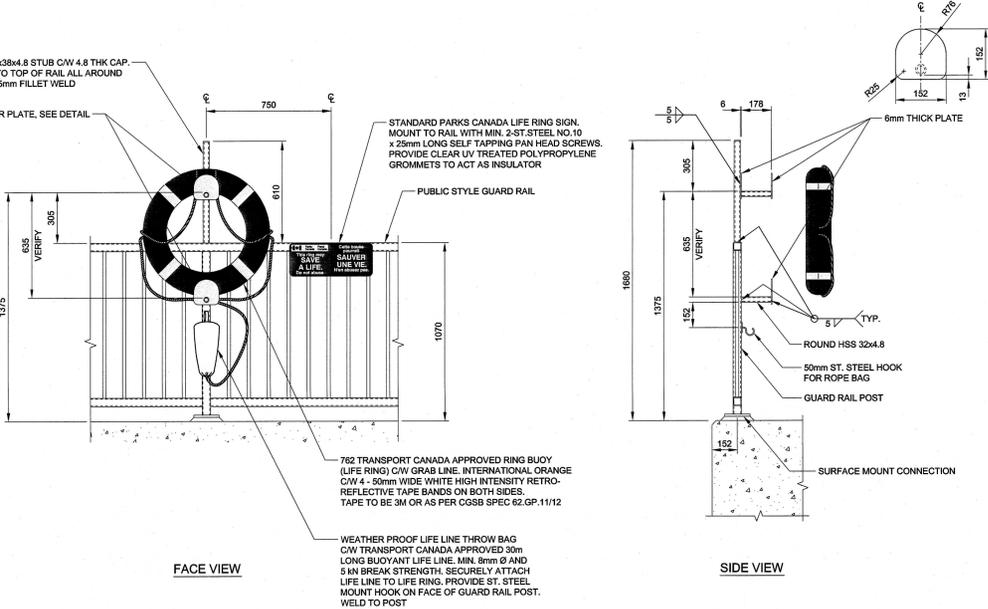
SAFETY SIGNS A8 AND B1 MOUNTING DETAIL  
1:15



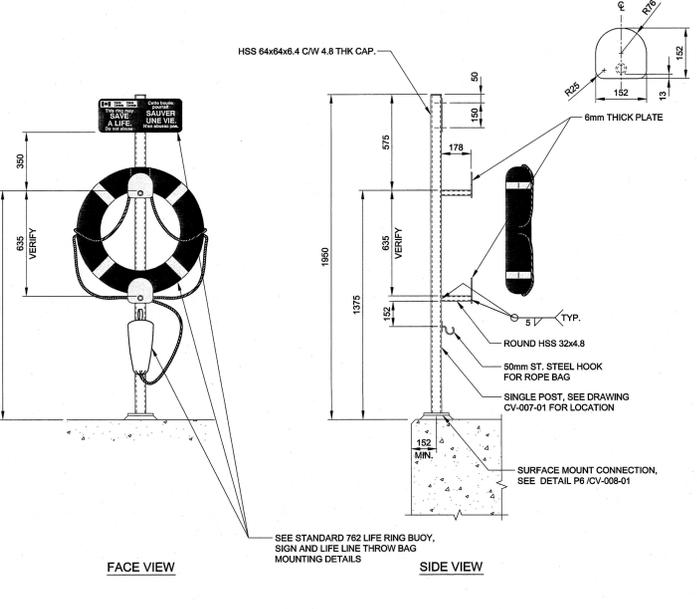
GENERAL ARRANGEMENT NEW BUOY AND BOOM ANCHORAGE  
N.T.S.



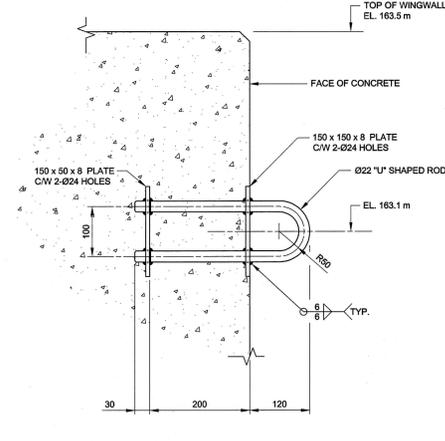
CONCRETE BOOM ANCHOR - DETAIL  
1:10



STANDARD 762 LIFE RING BUOY, SIGN AND LIFE LINE THROW BAG MOUNTING DETAILS  
1:15



SINGLE POST MOUNTING DETAIL  
1:15



CAST-IN BOOM ANCHOR - DETAIL  
1:5

- 1.1 DAM SAFETY BOOMS
- DAM SAFETY BOOM CONSISTS OF FLOTATION UNITS AND CONNECTOR ASSEMBLIES. THE ASSEMBLED BOOM WILL CONSIST OF INTERCONNECTED FLOTATION UNITS THAT MUST PROVIDE A CONTINUOUS DEMARCATON BOUNDARY. CONNECTION ASSEMBLY IS TO BE AS PRESCRIBED.
  - FLOTATION UNITS AND CONNECTOR ASSEMBLIES MUST BE NEW AND NOT PREVIOUSLY USED
  - FLOTATION UNIT WITH CONNECTORS ATTACHED MUST HAVE A MINIMUM FREEBOARD OF 30 cm.
  - ASSEMBLED BOOM MUST HAVE A MINIMUM TENSILE LOAD CAPACITY OF 150 kN.
  - FLOTATION UNITS MUST BE COMMERCIALY AVAILABLE IN ORDER TO READILY PURCHASE ADDITIONAL COMPONENTS AS REQUIRED.
- 1.2 FLOTATION UNITS
- FLOTATION UNITS MUST CONSIST OF AN EXTERNAL ENCASUREMENT, INTERNAL FOAM FILL AND INTERNAL STRUCTURAL STEEL CHANNEL THROUGH WHICH ALL EXTERNAL INTER FLOTATION UNIT CONNECTIONS ARE ATTACHED.
  - FOAM FILL CORE MUST BE POLYSTYRENE OR POLYURETHANE FOAM MEETING REQUIREMENTS OF ASTM C-578 AND MUST HAVE AN IN-PLACE DENSITY IN RANGE OF 14.4 kg/m<sup>3</sup> AND 15.2 kg/m<sup>3</sup>. WATER ABSORPTION OF FOAM MUST NOT EXCEED 3% BY VOLUME. FOAM FILL MUST TAKE UP A MINIMUM OF 95% OF THE INTERIOR VOLUME OF THE FLOTATION UNIT.
  - EACH FLOTATION UNIT MUST BE APPROXIMATELY CYLINDRICAL IN SHAPE.
  - THE NOMINAL LENGTH MUST BE 3 m. THE NOMINAL DIAMETER MUST BE 40 cm.
  - EACH FLOTATION UNIT TO HAVE A MINIMUM BUOYANCY OF 300 kg. EACH FLOTATION UNIT MUST MAINTAIN ITS ORIGINAL BUOYANCY IF IT IS STRUCTURALLY DAMAGED OR PUNCTURED.
  - THE FLOTATION UNIT MUST BE ENCASED WITH A DURABLE POLYETHYLENE ENCASEMENT SHELL WITH ANTIOXIDANTS AND UV INHIBITORS. NOMINAL WALL THICKNESS OF POLYETHYLENE ENCASEMENT MUST BE A MINIMUM OF 4 mm. POLYETHYLENE ENCASEMENT MUST HAVE MINIMUM DENSITY OF 0.928 g/m<sup>3</sup>.
  - THE ENCASEMENT COLOUR MUST BE YELLOW (FS-13655) PER TRANSPORT CANADA REQUIREMENTS.
  - EACH FLOTATION UNIT MUST BE REINFORCED AND BALLASTED WITH A STEEL CHANNEL. THE CHANNEL MUST BE LOCATED ON THE INTERIOR OF EACH FLOTATION UNIT, AND POSITIONED ON THE BOTTOM TO PROVIDE ANTI-ROLLING. CHANNEL MUST BE FIXED TO AND INTEGRAL WITH THE FLOTATION UNIT.
  - ALL FLOTATION UNIT METAL HARDWARE MUST BE STAINLESS STEEL OR HOT DIP GALVANIZED.
- 1.3 FLOTATION UNITS LETTERING AND GRAPHICS
- TEXT/GRAPHIC MUST BE INTEGRALLY MOULDED INTO FLOTATION UNIT POLYETHYLENE ENCASUREMENT AND MUST:
    - BE BLACK IN COLOUR.
    - LETTERING/SYMBOLS, WITH EXCEPTION NOTED, MUST BE 100 mm HIGH ARIAL FONT OR APPROVED EQUIVALENT.
    - LETTERING/GRAPHICS MUST BE CENTERED WITH EXCEPTION OF BACK FACE.
  - 50% OF FLOTATION UNITS MUST HAVE THE FOLLOWING TEXT/GRAPHICS CENTERED ON THE FRONT FACE:
 

⇐ DANGER - DAM AHEAD - KEEP OUT ⇐
  - 50% OF FLOTATION UNITS MUST HAVE THE FOLLOWING TEXT/GRAPHICS CENTERED ON THE FRONT FACE:
 

⇐ DANGER - BARRAGE DEVANT - NE PAS APPROCHER ⇐
  - 100% OF FLOTATION UNITS MUST HAVE THE FOLLOWING TEXT/GRAPHICS 75 mm HIGH ON THE BACK FACE:
 

Parks Canada
- NOTE: SKETCHES ABOVE NOT TO SCALE
- 1.4 CONNECTOR ASSEMBLIES
- CONNECTOR ASSEMBLY AT EACH FLOTATION UNIT SPACING IS TO CONSIST OF A LENGTH OF CHAIN ALONG WITH A BOLT AND COTTER PIN STYLE SHACKLE AT EACH END TO ATTACH FLOTATION UNITS. FLOTATION UNITS MUST HAVE INTEGRAL CONNECTOR ASSEMBLY TO RECEIVE SHACKLE. CHAIN MUST BE 19 mm SIZE AND GRADE 30 HOT DIPPED GALVANIZED STEEL. SHACKLES MUST BE STAINLESS STEEL OR HOT DIPPED GALVANIZED SIZED TO SUIT CONNECTION AND RATED FOR 2 LOADING REQUIREMENTS. COTTER PINS FOR SHACKLES MUST BE STAINLESS STEEL (TYPE 304 OR 316).
  - THE COMPLETE CONNECTOR ASSEMBLY SHALL RESULT IN A SPACING BETWEEN FLOTATION UNITS OF 1000 mm. ACCEPTABLE TOLERANCE IS +50 mm.
  - ALL COMPONENTS MUST BE CORROSION RESISTANT. STEEL COMPONENTS TO BE HOT DIP GALVANIZED OR STAINLESS STEEL TYPE 304 OR 316.
  - CONNECTION ASSEMBLIES MUST PERMIT MINIMUM ROTATION OF 90 DEGREES BETWEEN FLOTATION UNITS (HORIZONTAL PLANE) AND MUST ALLOW MOVEMENT TO ACCOUNT FOR WAVE ACTION.

NOTES

- SEE DRAWING CV-002-01 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
- SIGNS TO BE PROVIDED TO CONTRACTOR BY PARKS CANADA. INSTALLATION BY CONTRACTOR.
- ALL OTHER ITEMS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.

No	Date	Issues and/or modifications	By
4	2018-02-22	ISSUED FOR TENDER	J.K.
3	2017-02-23	ISSUED FOR REVIEW	J.K.
2	2016-11-04	ISSUED FOR REVIEW	J.K.
1	2016-08-02	PRELIMINARY DESIGN - 66% STAGE	J.K.
0	2016-08-02	PRELIMINARY	J.K.

BOBS LAKE DAM REPLACEMENT  
 BOLINGBROKE - ONTARIO  
 SAFETY SIGNAGE AND  
 BOOM ANCHORAGE  
 DETAILS

drawn	H. OTMANI	scale	AS SHOWN
checked	J. CARON	date	2015-07-28
designed	Y. BERTON	reference	
approved	J. KONCZYNSKI		

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