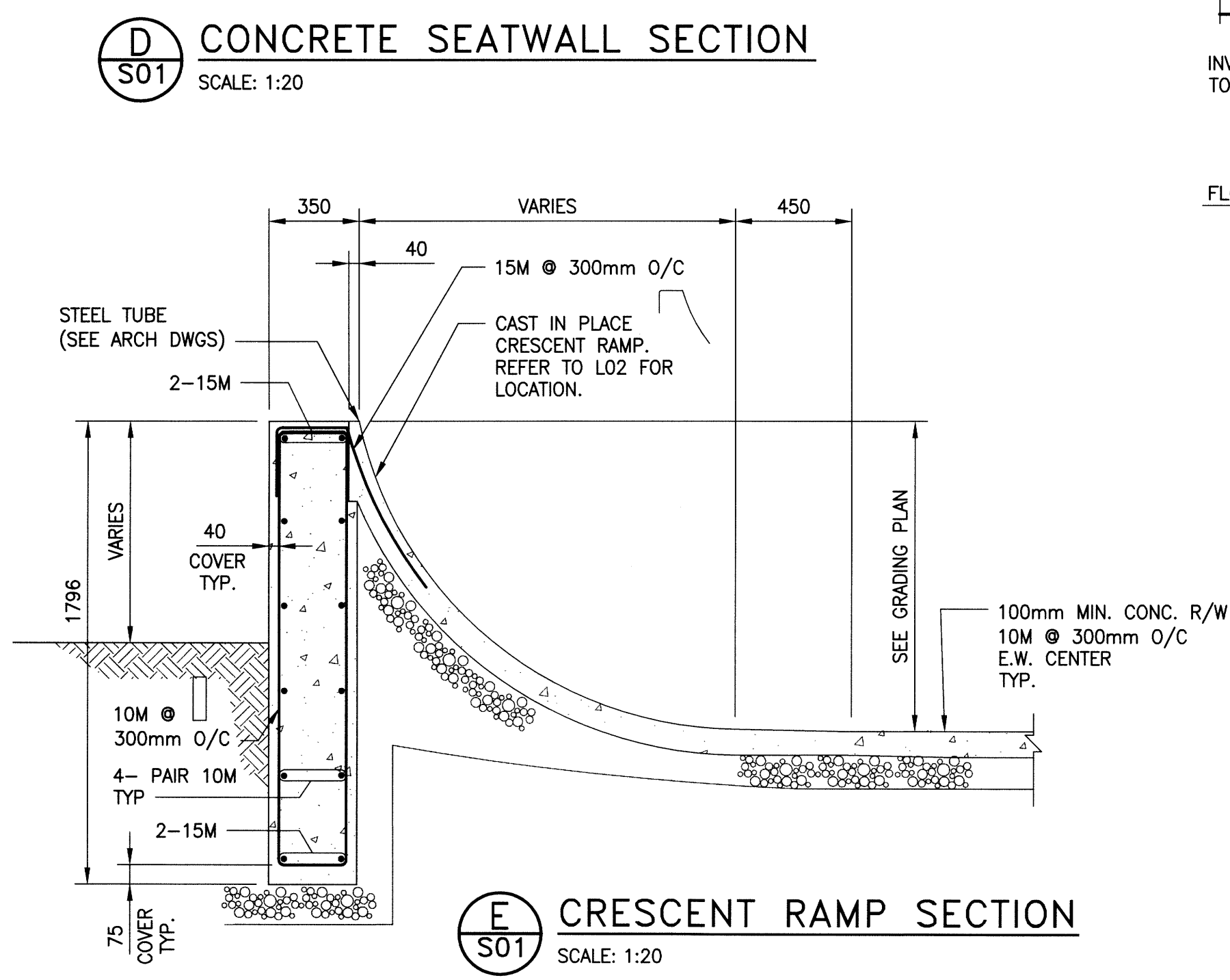
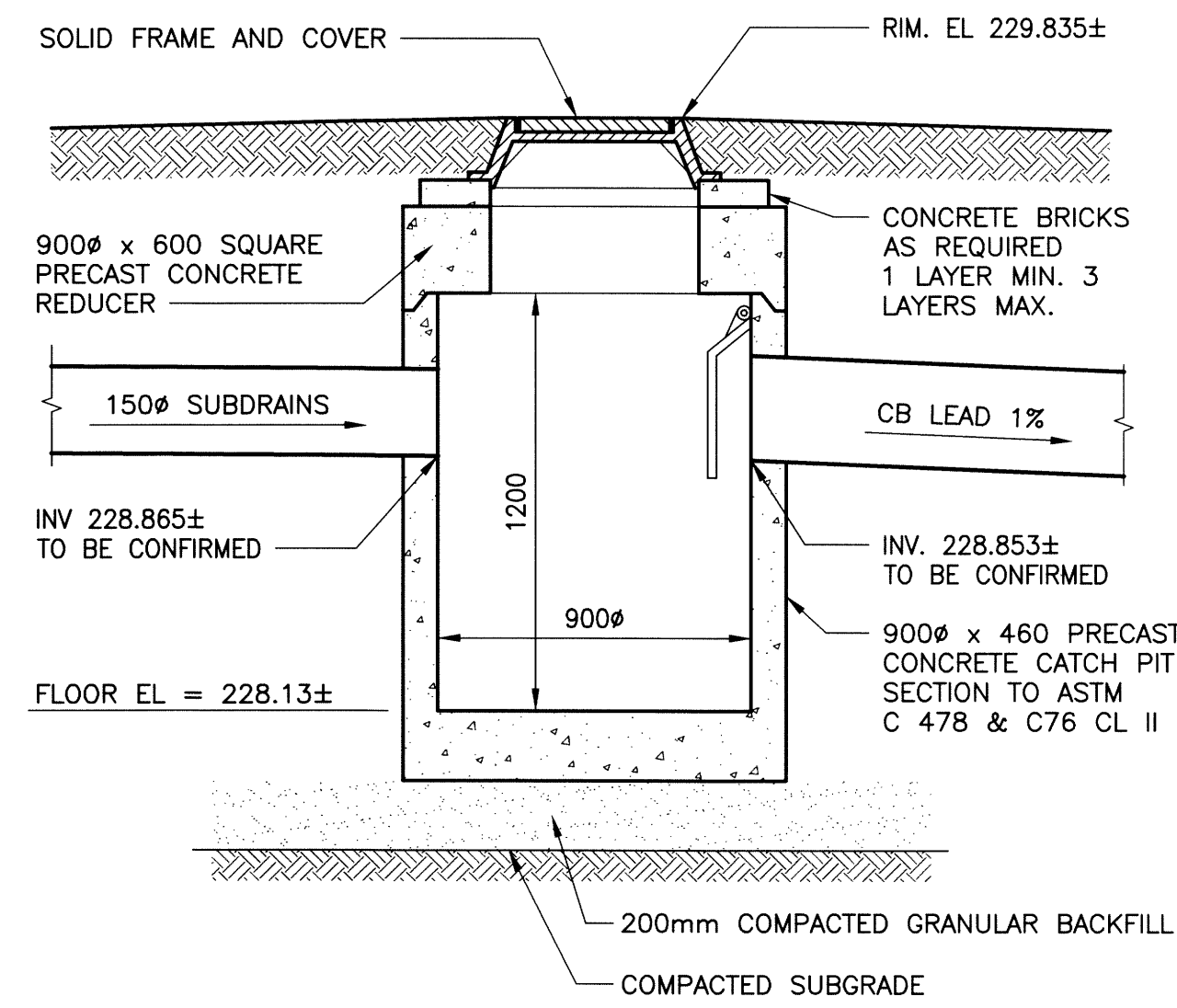
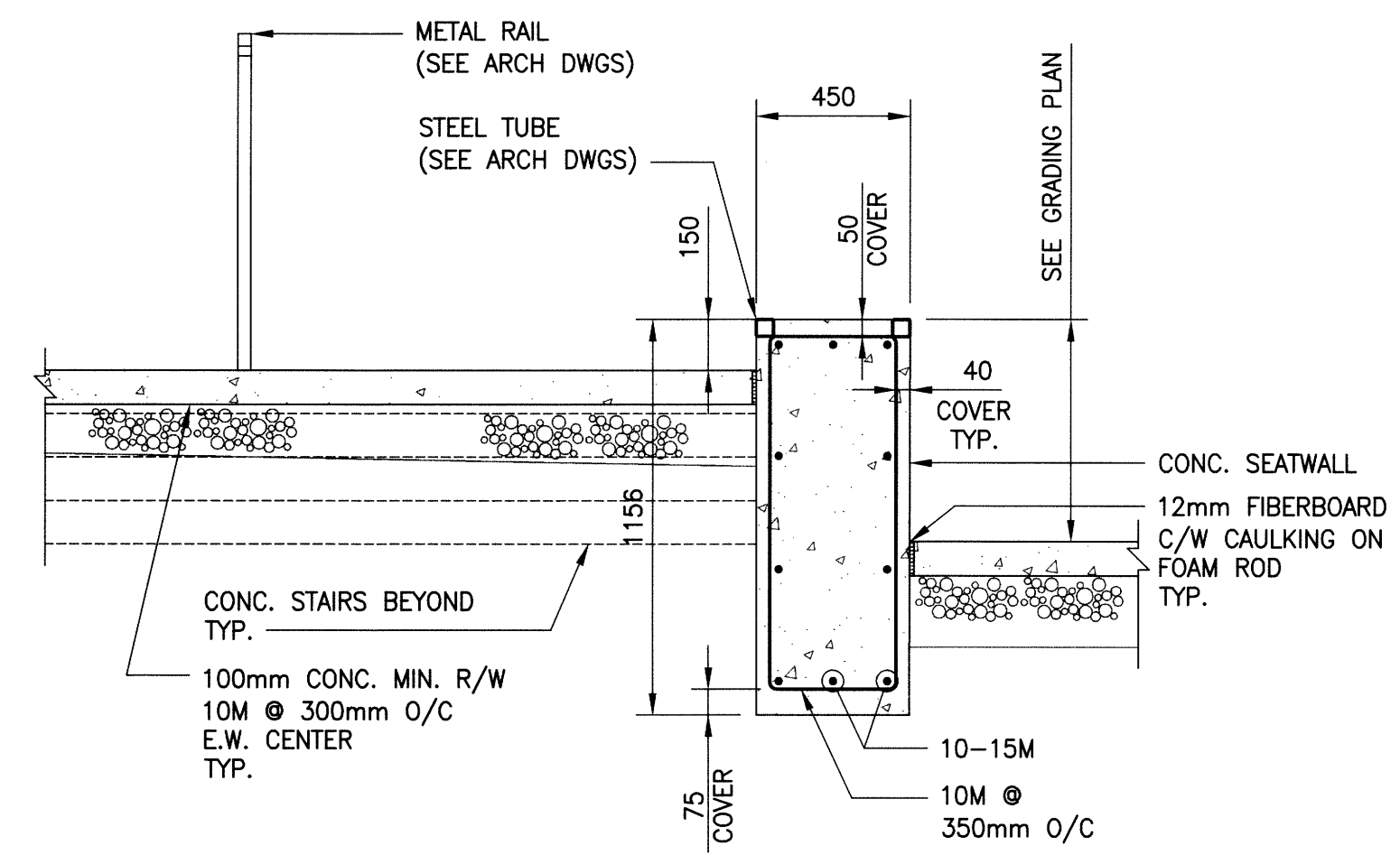
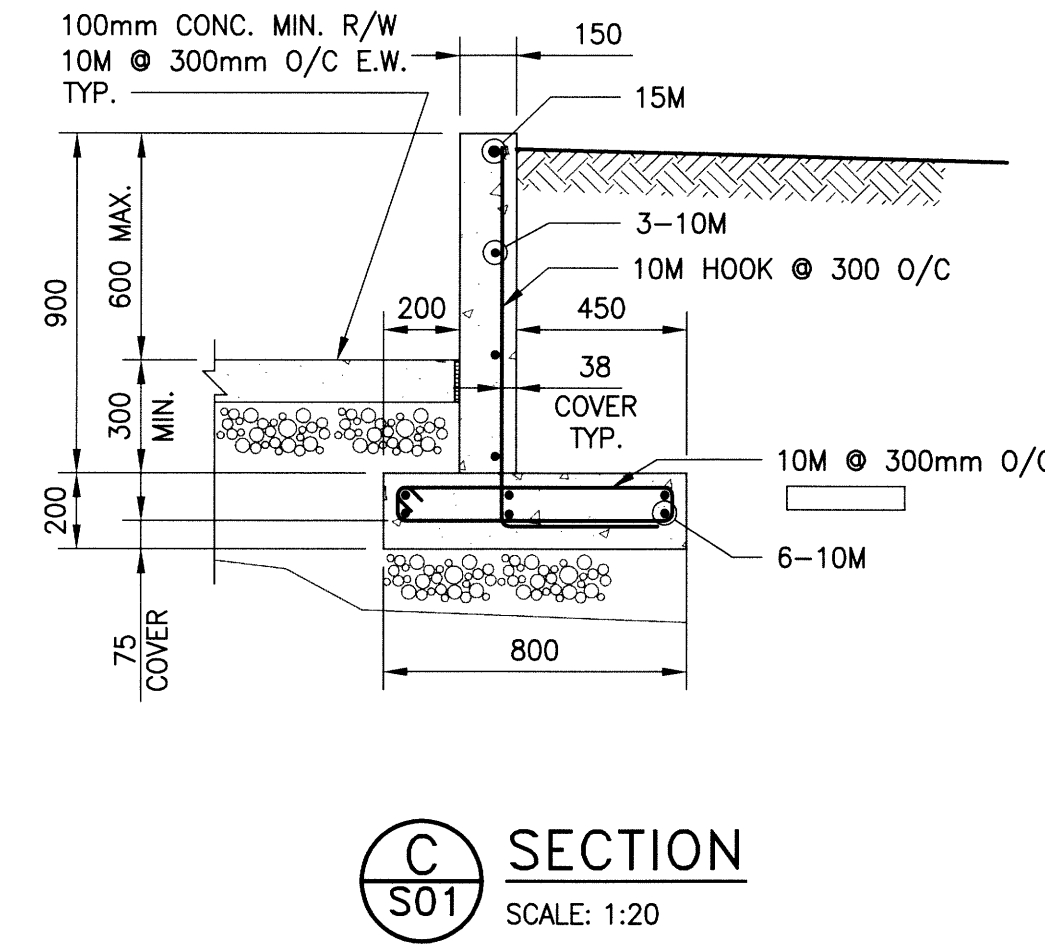
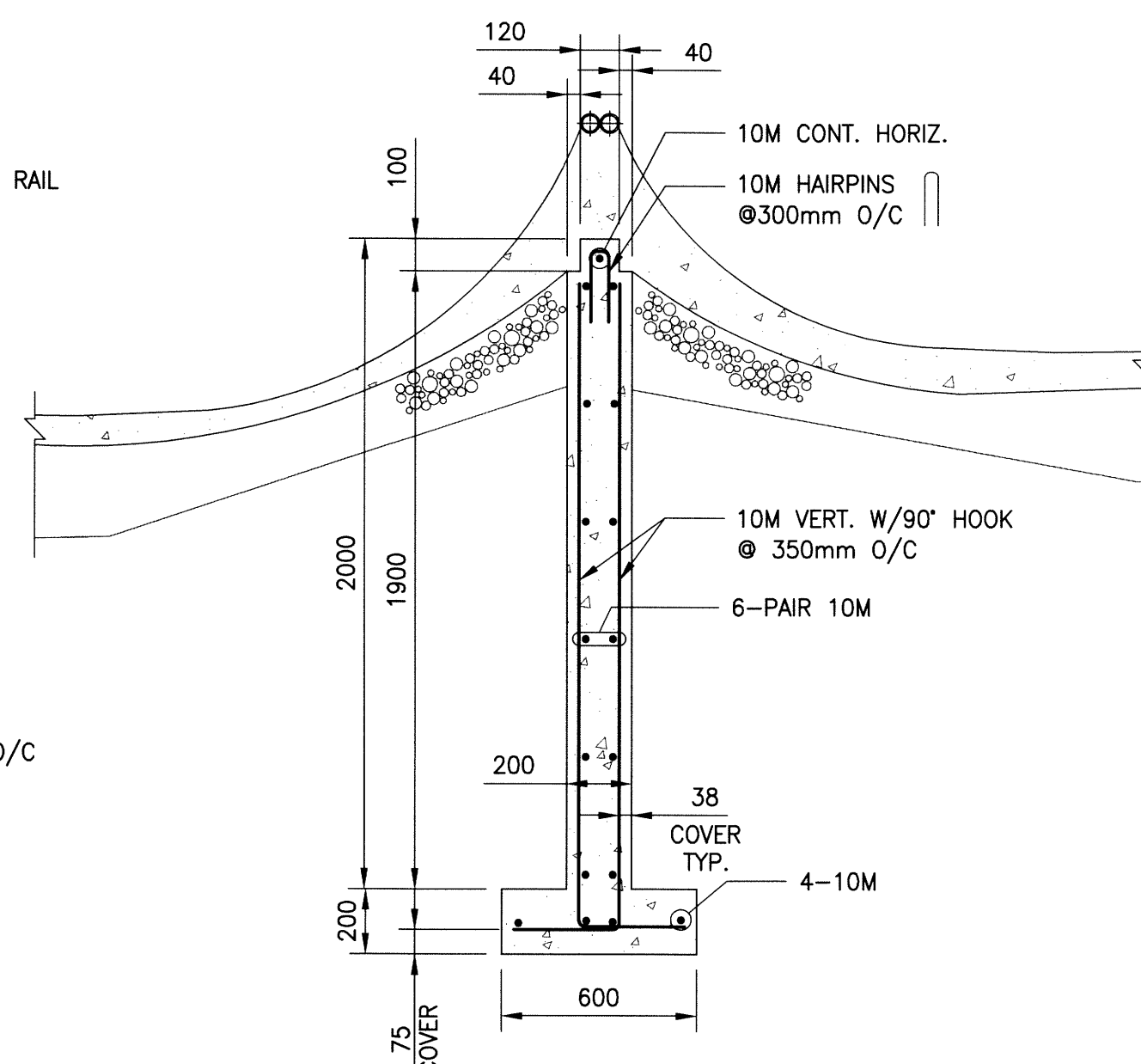
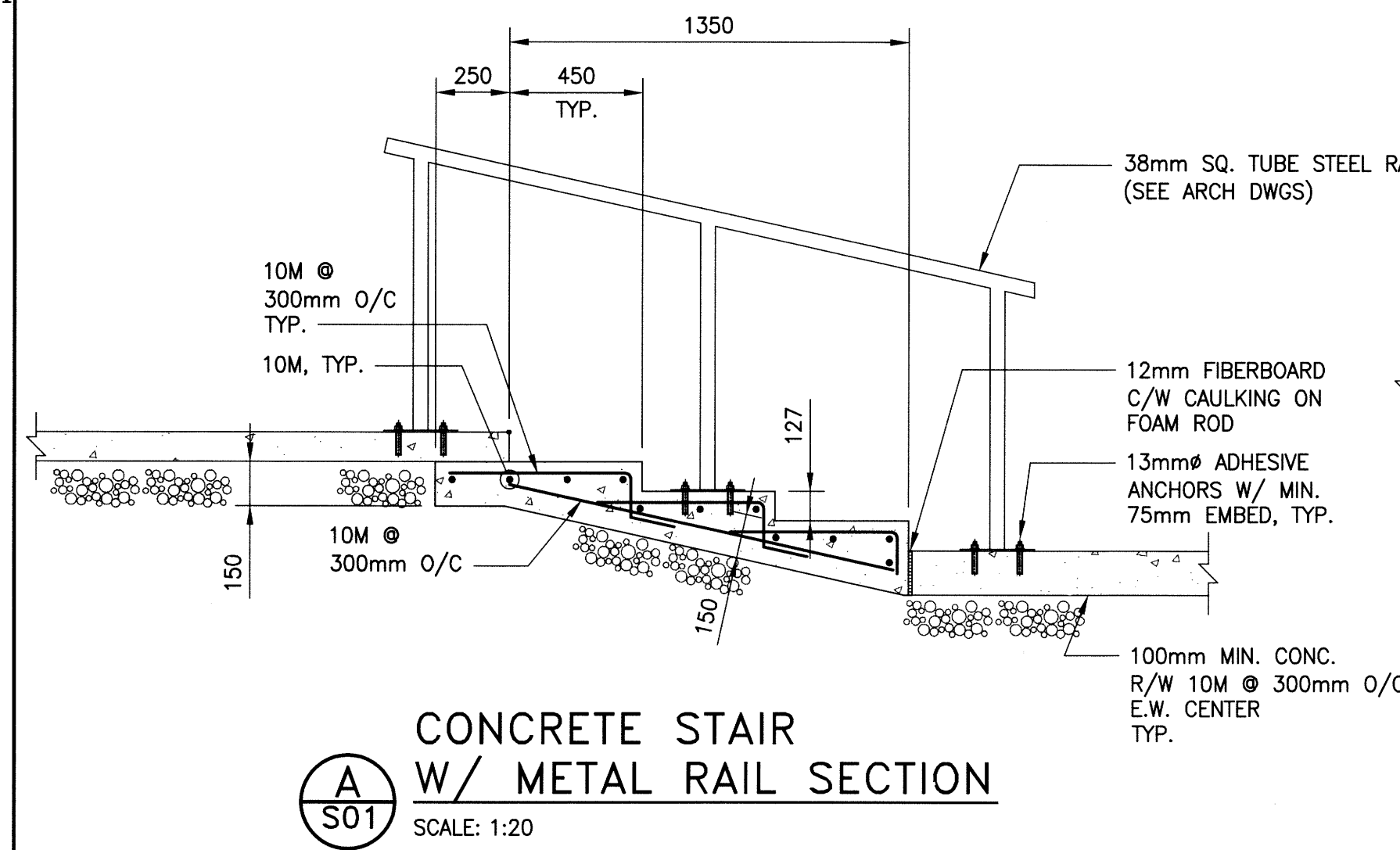


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**CONCRETE:**

- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1-09 (R2014). SEE BELOW FOR MIX REQUIREMENTS.
- ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE CONTRACT ADMINISTRATOR. CALCIUM CHLORIDE SHALL NOT BE USED.
- MIX WATER SHALL BE POTABLE.
- DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3-M92 (R2013). ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
- CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1-09 (R2014).
- FORM RELEASE AGENT SHALL BE BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
- PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
- PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE. CO-ORDINATE WITH ALL TRADES FOR EMBEDDING OF ALL OTHER, CONDUIT, SERVICES, BLOCKING, ETC.
- ALL EXPOSED CORNERS TO HAVE 25mm CHAMFER FILLET UNLESS NOTED.
- CAST-IN-PLACE ANCHOR BOLTS SHALL MEET REQUIREMENTS OF ASTM A307-14.
- EXPANSION ANCHORS SHALL BE HILTI KWIK-BOLTS OR APPROVED EQUAL, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
- ADHESIVE ANCHORS SHALL BE HILTI HY150 HAS RODS OR APPROVED EQUAL, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
- GROUT REINFORCING DOWELS WITH EPOXY GROUT HILTI HIT-HY200 MAX. OR APPROVED EQUAL. GROUT BASE PLATES WITH NON-SHRINK GROUT SIKKA M-BED STANDARD, OR APPROVED EQUAL. PLACE AND CURE ALL GROUT WITHIN TEMPERATURE RANGE RECOMMENDED BY MANUFACTURER.
- BONDING AGENTS SHALL BE USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE OR STEEL. ACCEPTABLE PRODUCT: SIKADUR 32 HI-MOD (EPOXY), SIKKA LATEX R (ACRYLIC, MIX INTO GROUT) OR APPROVED EQUAL IN ACCORDANCE WITH B7.
- THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1-09 (R2014).
- THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.

**REINFORCING STEEL:**

- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18-09 (R2014). GRADE TO BE 400 MPa.
- REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
- SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1-09 (R2014), CSA A23.3-14 AND ACI SP-66 (2004) UNLESS NOTED. LAP STEEL 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
- BEND ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
- TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.
- PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:
 

FOUNDATION WALLS (EXTERIOR FACE)	38mm
FOUNDATION WALLS (INTERIOR FACE)	38mm
FOUNDATION WALLS (BOTTOM)	75mm
SLAB-ON-GRADE (TOP)	50mm
SLAB-ON-GRADE (BOTTOM)	50mm
FOOTING (BOTTOM)	75mm
FOOTING (SIDE)	35mm

**EXCAVATION & BACKFILL:**

- REMOVE ALL FILL MATERIALS, DELETERIOUS SOILS AND ORGANICS IN AREAS REQUIRING GRANULAR BASE MATERIALS. COMPACT SUBGRADE TO 98% STANDARD PROCTOR DENSITY. SUB-EXCAVATE AND REPAIR ALL AREA EXHIBITING UNSUITABLE DEFLECTIONS.
- GRANULAR BASE TO BE PLACED ON GRADE SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY IN MAXIMUM 150mm LIFTS.
- DO NOT COMPACT FROZEN BACKFILL OR PLACE ON FROZEN SUBGRADE.
- SUB-GRADE, SUB-BASE AND BASE COURSE MATERIALS AND CONSTRUCTION METHODS SHALL BE AS PER CITY OF WINNIPEG SPECIFICATION CW3110, SPECIFICATION UNLESS NOTED.

**CONCRETE MIX DESIGNS:**

CONCRETE MIX DESIGN SHALL BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

**EXTERIOR SLABS AND BEAMS:**

EXPOSURE CLASS	C-2
MIN. 28 DAY COMP. STRENGTH	32 MPa
CEMENT TYPE	GU
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	5%-8%

0 15/07/10 ISSUED FOR CONSTRUCTION	
NO.	YY/MM/DD
REVISIONS / ISSUE	
CLIENT:	
PROJECT:	
CHORNICK SKATE PARK CHORNICK PARK WINNIPEG, MB	
DWG. DESCRIPTION:	
SECTIONS & NOTES	
DESIGN BY:	DATE (YY/MM/DD):
RJL	15/06/09
DESIGN CHECK:	DATE:
RS	15/07/10
DRAWN BY:	DATE:
JAR	15/06/09
DWG. CHECK:	DATE:
	15/7/10
DWG. NO.	REV.
15-0109-003 S02	0

