

CONSTRUCTION NOTES :

- GENERAL :**
 - ALL ELEVATIONS ARE EXPRESSED IN METRES REFERRED TO PROJECT DATUM AND LOCAL BENCHMARK.
 - ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND DETAIL DRAWINGS, FEBRUARY 2000.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PROPERTY OWNERS WHOSE LAND WILL BE AFFECTED BY THE PROPOSED WORKS, ONE WEEK IN ADVANCE OF COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN FROM PRIVATE PROPERTY OWNERS WRITTEN PERMISSION FOR ANY INCURSION ONTO THEIR LANDS ON A FORM ACCEPTABLE TO THE CITY ENGINEER. PROOF OF PERMISSION SHALL BE DEPOSITED WITH THE CITY ENGINEER PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO CONFIRM LOCATION AND INVERT OF ALL EXISTING UTILITIES AND SERVICE CONNECTIONS PRIOR TO CONSTRUCTION. WHERE THE POSSIBILITY OF DAMAGE TO EXISTING UNDERGROUND UTILITIES MAY BE CAUSED BY NEW CONSTRUCTION SHOWN ON THESE PLANS, SUCH UTILITIES SHALL BE EXPOSED, RAISED/LOWERED, RELOCATED OR, IF NECESSARY, REMOVED BY THE OWNER OF THE UTILITY AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR TO CONFIRM LOCATIONS OF ALL GAS MAINS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF ANY CONFLICT WITH PROPOSED WORKS.
 - PAVEMENT SHALL BE REINSTATED TO ORIGINAL CONDITION OR BETTER c/w COMPACTED BASE MATERIALS AND ASPHALT. (SEE TYPICAL CROSS SECTIONS)
 - CONTRACTOR SHALL OBTAIN WRITTEN RELEASE FROM PROPERTY OWNERS WHOSE LANDS ARE AFFECTED BY THE PROPOSED WORKS FOLLOWING FINAL RESTORATION
- EXCAVATION, DEWATERING & BACKFILL :**
 - ALL WORK IS TO BE UNDERTAKEN IN THE DRY. CONTRACTOR TO PROVIDE 'TEMPORARY' WORKS AS NECESSARY TO ISOLATE THE CONSTRUCTION AREA FROM UPSTREAM AND DOWNSTREAM WATER AND ARRANGE FOR 'TEMPORARY' PUMPING FACILITIES TO CONVEY UPSTREAM RUNOFF TO THE PUMP STATION INLET CONDUITS.
 - ALL EXISTING VEGETATION AFFECTED BY THE WORKS TO BE REMOVED AND DISPOSED 'OFFSITE'. REINSTATE BANKS AS SHOWN ON THE DRAWINGS.
 - REMOVE ORGANIC OVERBURDEN AND SOFT MATERIAL FROM UNDERNEATH THE EXTENT OF WORKS TO ACCEPTABLE FOUNDATION SUBGRADE AS APPROVED BY GEOTECHNICAL CONSULTANT.
 - CHANNEL SLOPE PROTECTION MATERIALS AS SHOWN ON THE SECTIONS TO BE AS FOLLOWS:

(i) RIP RAP	
EQUIV. DIA.(mm)	% FINER BY WEIGHT
600	100%
400	55% - 100%
300	45% - 55%
200	30% - 40%
100	10% - 20%
60	5% - 10%
40	0% - 5%

RIP RAP SHALL BE ANGULAR WELL GRADED FROM A MAXIMUM SIZE AT LEAST 1.5 TIMES AVERAGE SIZE TO 25mm SPALLS SUITABLE TO FILL VOIDS BETWEEN ROCKS.

(ii) FILTER MATERIAL	
SQ. OPENING (mm)	% FINER BY WEIGHT
150	100%
50	95% - 100%
30	75% - 95%
10	45% - 75%
6	30% - 55%
4	20% - 35%
2	5% - 15%
#200	5% MAX.

FILTER MAY BE QUARRY TAILINGS OR PIT RUN CONFORMING TO ABOVE GRADATIONS.
 - RIP RAP AND FILTER MATERIAL SHOULD MEET SOUNDNESS AND DENSITY CRITERIA SUITABLE FOR CONCRETE AGGREGATE.
 - RIP RAP PLACEMENT TO BE SUCH AS TO PRODUCE A REASONABLY WELL GRADED MASS OF ROCK WITH THE MINIMUM PRACTICABLE PERCENTAGE OF VOIDS. NO ROCK SHALL PROTRUDE MORE THAN THREE HUNDRED (300mm) ABOVE THE LINES AND GRADES SHOWN. THE FINISHED RIP RAP SHALL BE FREE FROM OBJECTIONABLE POCKETS OF SMALL STONES AND/OR CLUSTERS OF LARGER ROCKS.

3. SEDIMENT CONTROL :

- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES, FEDERAL AND PROVINCIAL GOVERNMENTS INCLUDING THE DEPARTMENTS OF THE ENVIRONMENT, IN THE PROTECTION OF FISH AND WILDLIFE DURING THE CONSTRUCTION OF THE WORKS. SPECIFICALLY, THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATION AND CONSTRUCTION PROCEDURES ARE UNDERTAKEN IN SUCH A MANNER AS TO PREVENT SILT-LADEN RUNOFF FROM THE SITE OF THE WORK FROM ENTERING THE DOWNSTREAM DRAINAGE SYSTEM, AND SHALL FOLLOW PROCEDURES AS RECOMMENDED IN THE PUBLICATION ENTITLED "LAND DEVELOPMENT GUIDELINES" FOR THE PROTECTION OF AQUATIC HABITAT", AS ISSUED BY THE MINISTRY OF ENVIRONMENT, LANDS AND PARKS.
- DURING CONSTRUCTION THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED AREAS ARE KEPT DEWATERED WITH CONCENTRATED SURFACE RUNOFF EITHER DIRECTED AROUND WORK AREAS OR TEMPORARILY CONTAINED WITHIN CLOSED CONDUITS.
- CONTRACTOR TO INSTALL SILT FENCE IF SITE CONDITIONS DICTATE.
- COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PERMIT FOR INSTREAM CONSTRUCTION.

4. REINFORCED CONCRETE :

- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SHORING AND BRACING DURING CONSTRUCTION. FORMWORK, FALSE WORK AND SHORING FOR CONCRETE TO BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.
- PERFORM WORK AND SUPPLY CONCRETE AS PER 'ALTERNATIVE 1' REFER TO TABLE II - CAN/CSA-A23.1-M90.
- CONCRETE TO CONSIST OF PORTLAND CEMENT TYPE 10 NORMAL CLASS 'C1' WITH MINIMUM COMPRESSIVE STRENGTH OF 30 MPa AT 28 DAYS.
- ADMIXTURES TO BE APPROVED BY THE ENGINEER (NO CALCIUM CHLORIDE TO BE USED).
- 3 CONCRETE CYLINDER AIR ENTRAINMENT AND SLUMP TESTS TO BE TAKEN AS PER CSA STD. A23-2 WITH COPIES OF TEST RESULTS SUBMITTED TO THE ENGINEER. TESTING SHALL BE AT THE CONTRACTOR'S COST.
- REINFORCING STEEL SHALL BE NEW DEFORMED BARS CONFORMING TO CSA G30.12 GRADE 400 (FY 58,000 PSI).
- THE BARS AND CHAIRS TO BE PROVIDED BY THE CONTRACTOR TO GIVE THE REQUIRED CONCRETE COVER AS SHOWN ON THE DRAWINGS.
- MINIMUM CONCRETE COVER TO REINFORCEMENT TO BE 50mm FOR 20M BARS OR GREATER, 40mm FOR SMALLER BARS IN WALLS AND SLABS EXCEPT 75mm IN CONCRETE CAST AGAINST OR DIRECTLY EXPOSED TO GROUND.
- ALL EXPOSED CONCRETE EDGES TO HAVE 20mm x 20mm CHAMFERS.
- THE MINIMUM LAP LENGTH FOR ALL REINFORCING SPLICES SHALL BE 650mm UNLESS NOTED OTHERWISE.
- CONCRETE TO BE WELL VIBRATED, AND TO BE WET-CURED USING PLASTIC SHEETING AND BURLAP FOR A MIN. OF 14 DAYS
- NO CONSTRUCTION JOINTS SHALL BE MADE IN THE CONCRETE (EXCEPT THOSE AT THE TOP AND BOTTOM OF THE WALLS) WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

REV.	DATE	ISSUED FOR CONSTRUCTION	DR.	APP.	CLIENT
A	8.16.16		M.L.	D.J.R.	

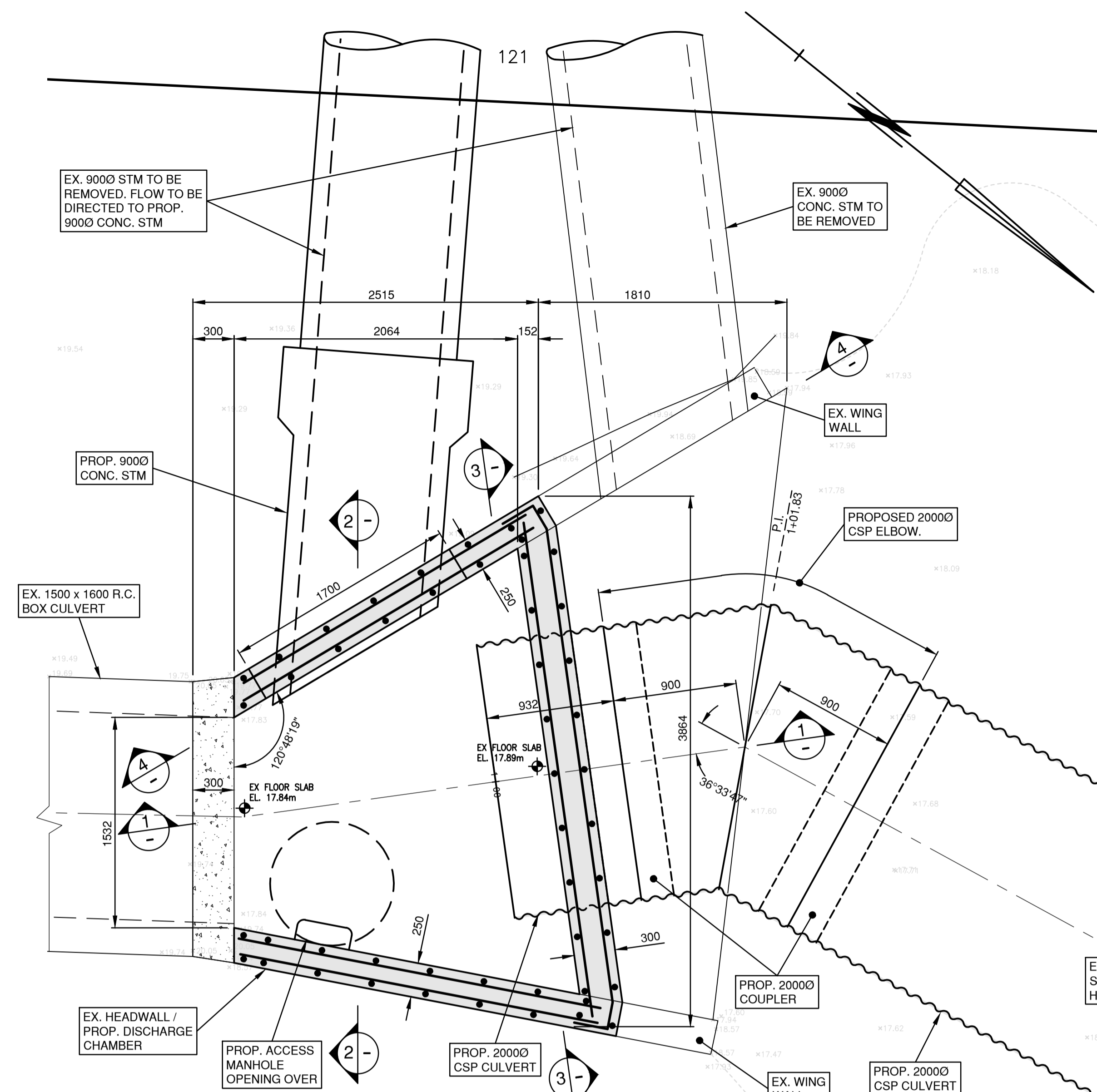
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

PROJECT: MOUNTAIN HIGHWAY CONSTRUCTION
TEMPORARY CULVERT ENCLOSURE - KEITH CREEK

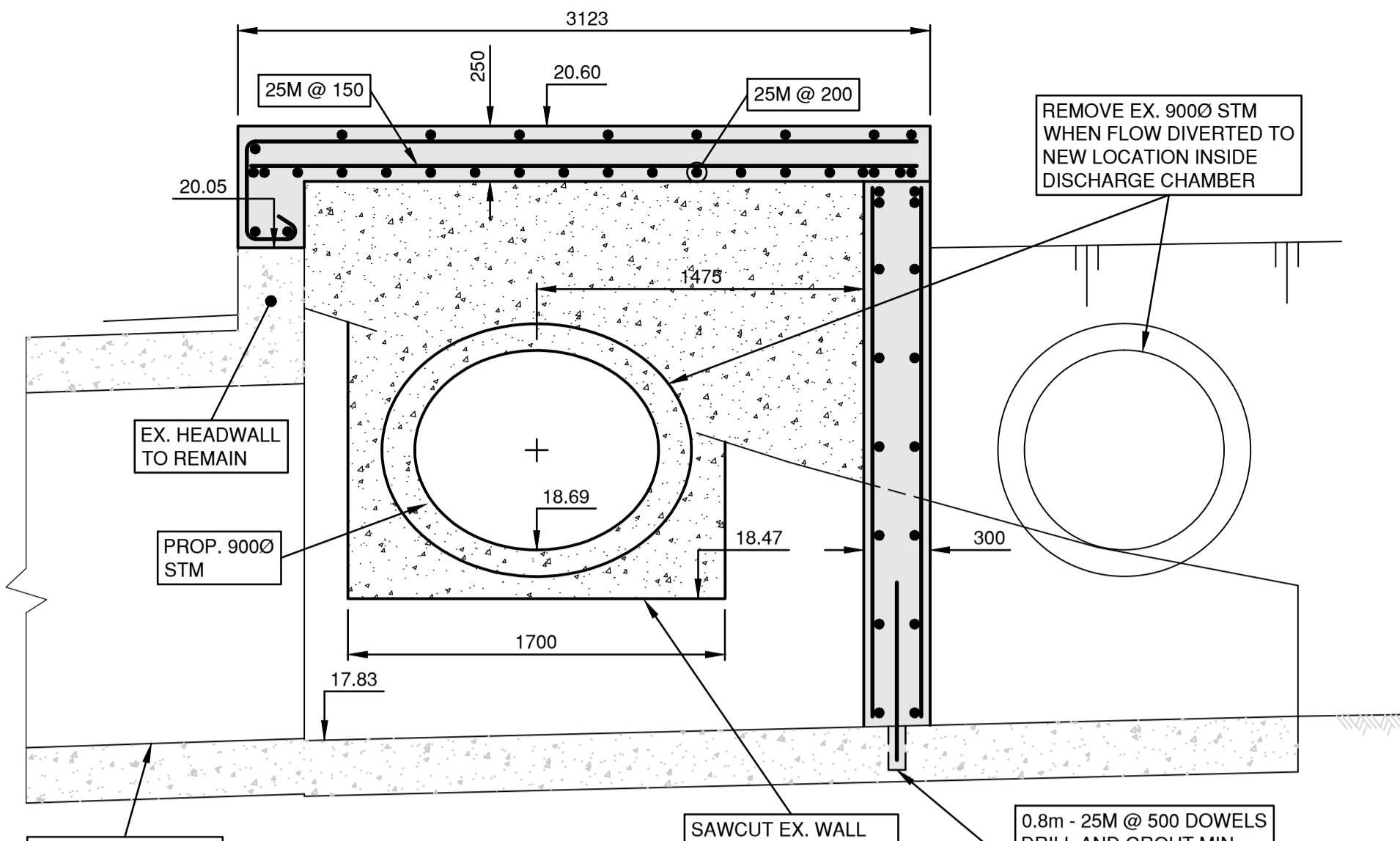
DRAWING TITLE: **CSP TEMPORARY CULVERT PLAN & PROFILE**

WSP CANADA INC.
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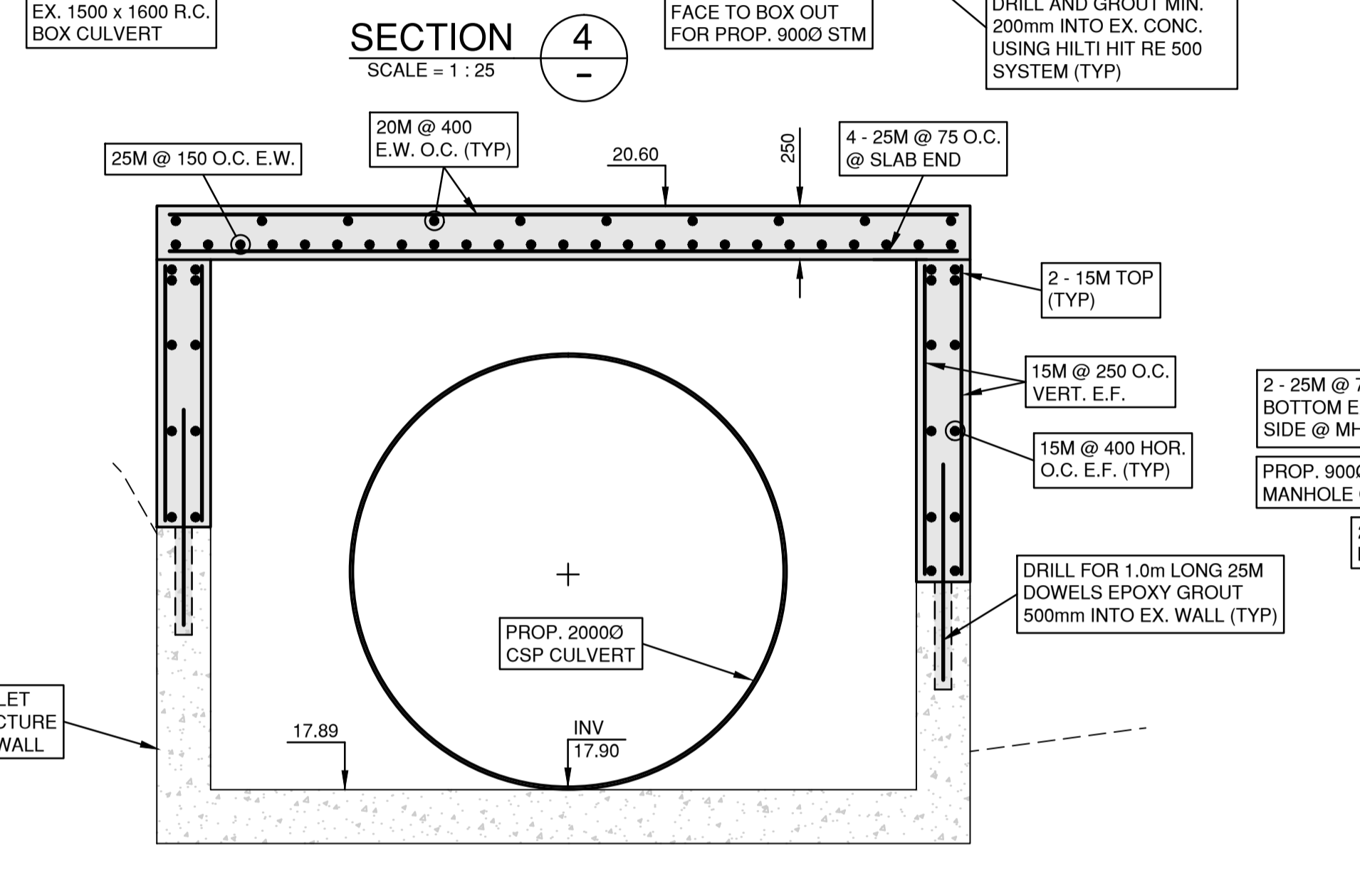
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SCALE: H 1:250 V 1:50	DATE: JUL 2016	DRAWING NO.
DRAWN: M.L.	CHECKED: D.J.R.	SHEET NO. 1 OF 2
DESIGN: D.J.R.		JOB NO. 161-09939-00



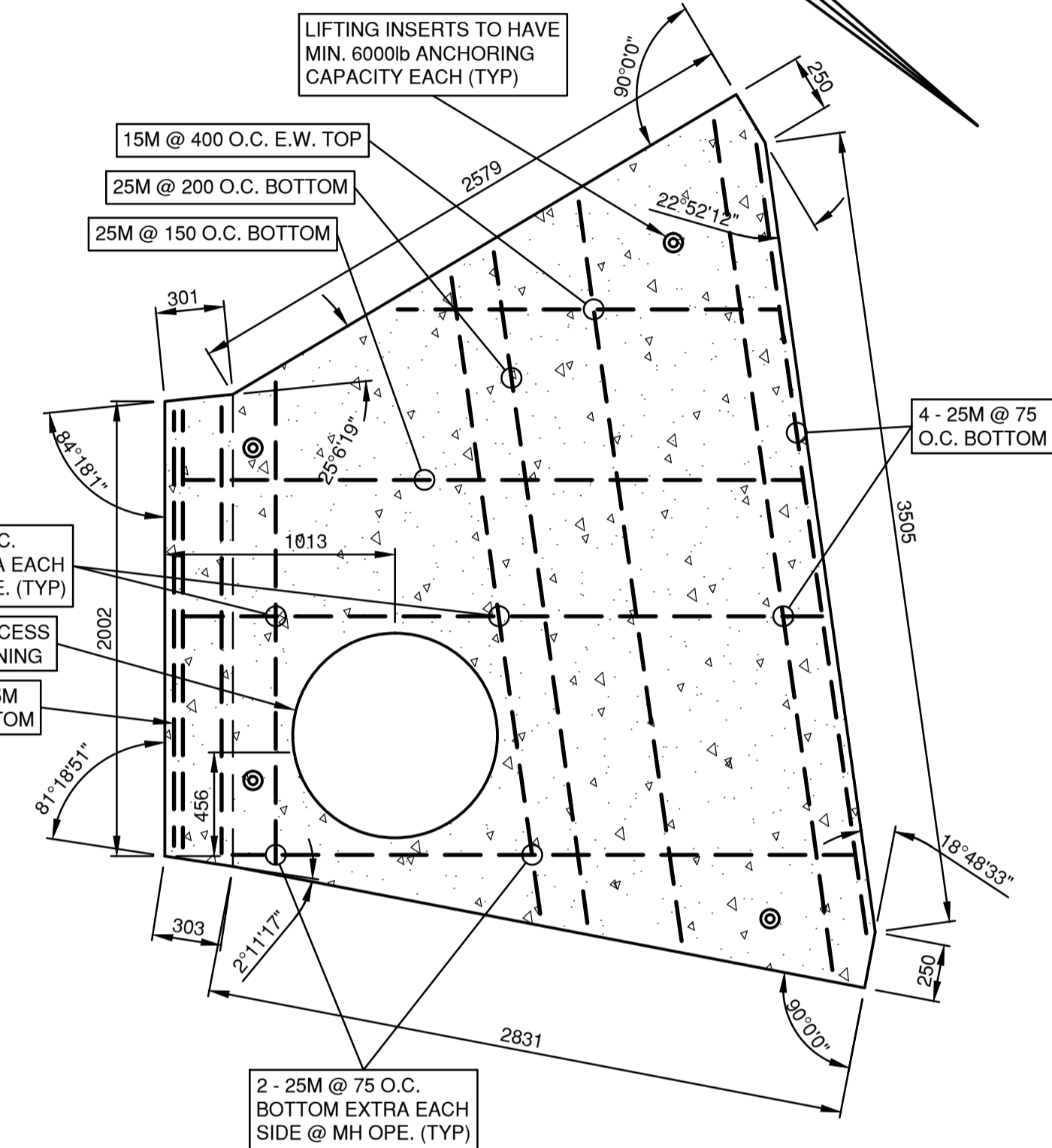
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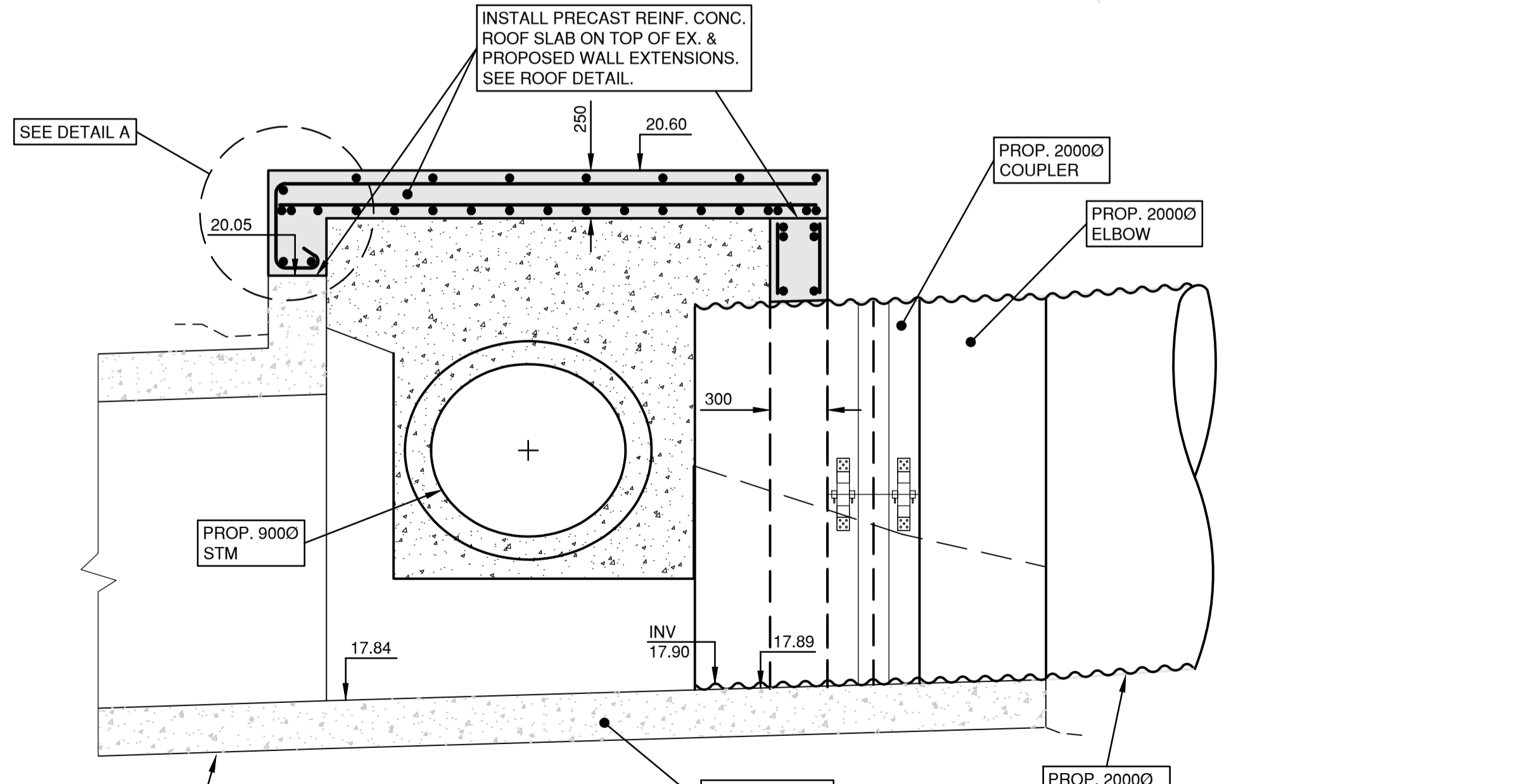
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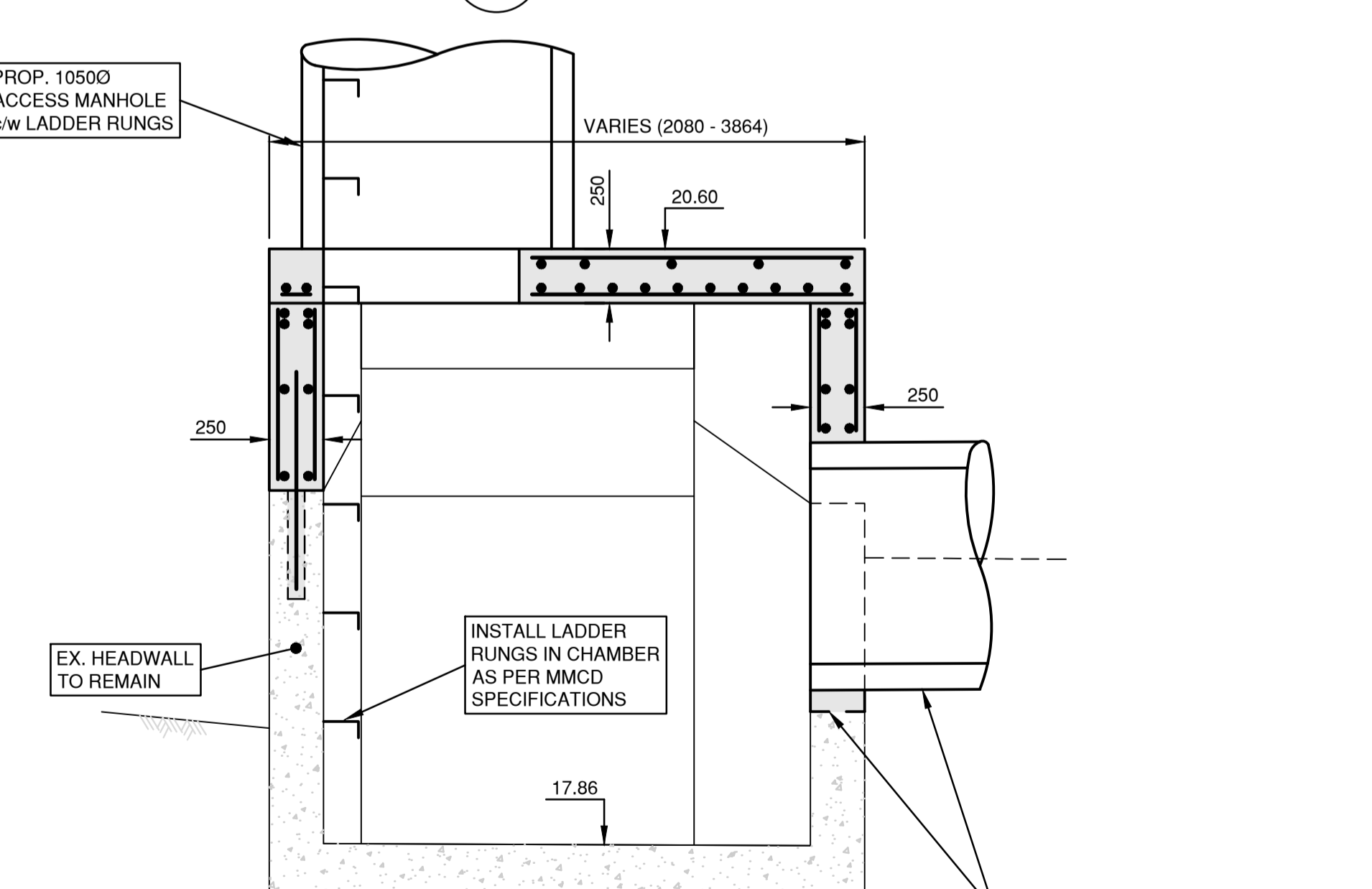
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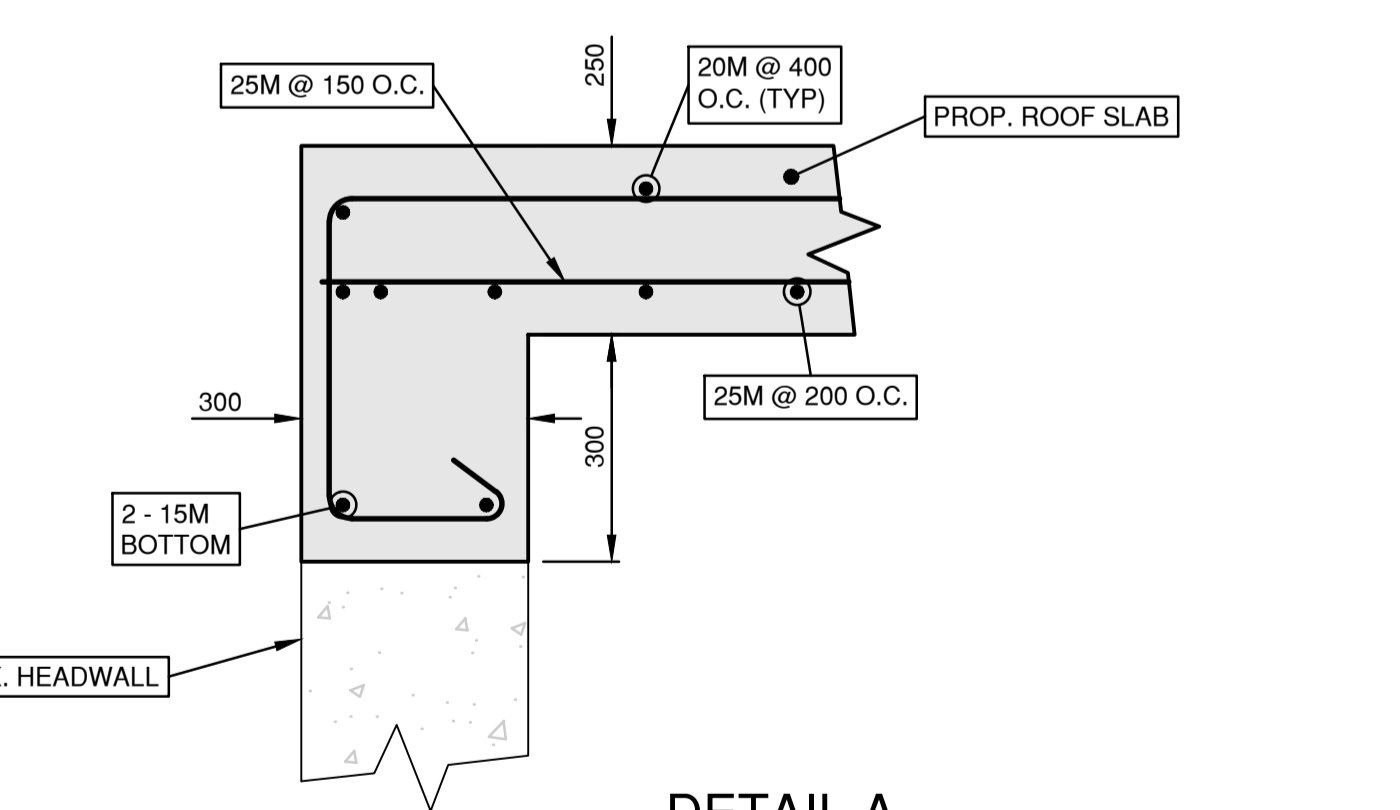
PRECAST CHAMBER ROOF DETAIL
SCALE = 1 : 25



SECTION 1
SCALE = 1 : 25



SECTION 2
SCALE = 1 : 25



DETAIL A
SCALE = 1 : 10

NOTES:
1. SEE SHEET #1 FOR CONSTRUCTION NOTES.

REV.	DATE	REIN. REV'D. ISSUED FOR CONSTRUCTION	DR. M.L.	APP. D.J.R.
A	8.16.16			

CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

PROJECT
MOUNTAIN HIGHWAY CONSTRUCTION
TEMPORARY CULVERT ENCLOSURE - KEITH CREEK

DRAWING TITLE
DISCHARGE CHAMBER DETAILS



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TITLE	SCALE	DATE	PROJECT NO.
DISCHARGE CHAMBER DETAILS	1:25	JUL 2016	
DRAWN	DESIGN	CHECKED	SHEET NO.
M.L.	D.J.R.	D.J.R.	2 OF 2
JOB NO. 161-09939-00			

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