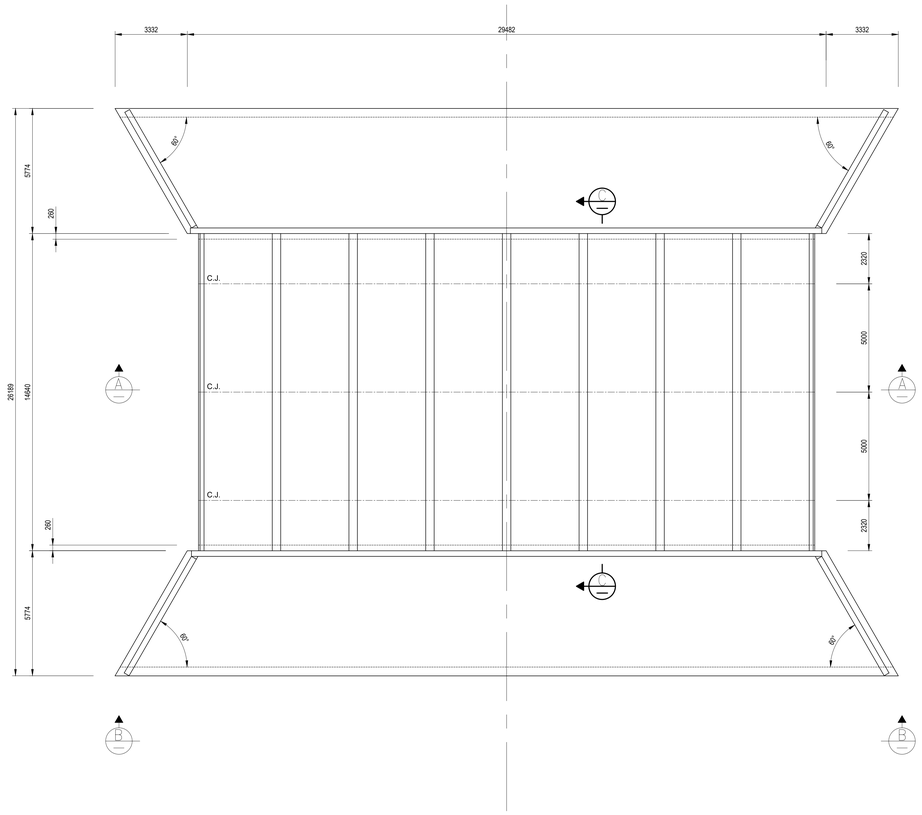
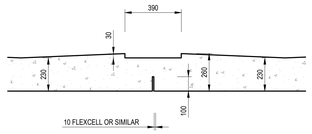
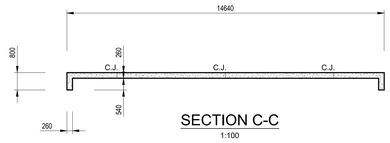


PLAN OF CULVERT SLAB & APRON SLAB
1:100

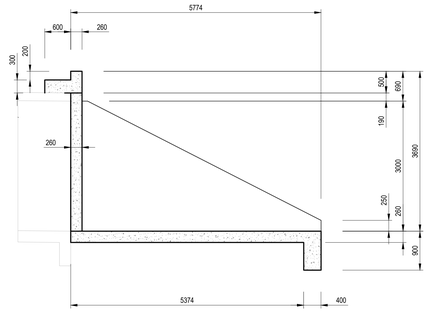
DETAIL 1
1:15



DETAIL 2
1:15



SECTION C-C
1:100



SECTION D-D
1:50

CONCRETE NOTES

1. ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF SANS 2001:CC1
2. THE TYPE AND ORIGIN OF AGGREGATE AND CEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR COMMENT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A MIX DESIGN AND REPORT BY A RECOGNISED CONCRETE LABORATORY, TO INDICATE THAT SUITABLE MATERIALS AND MIX PROPORTIONS WILL BE USED TO MAINTAIN WORKABILITY AND TO AVOID ALKALI AGGREGATE REACTION AND EXCESSIVE BLEEDING.
3. MIX DESIGNS MUST BE SUBMITTED TIMEOUSLY FOR APPROVAL BY THE ENGINEER BEFORE CONSTRUCTION COMMENCES. IT REMAINS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE MIX DESIGNS APPROVED BY THE ENGINEER.
4. ALL SURFACES OF FOUNDATIONS UPON OR AGAINST WHICH CONCRETE IS TO BE PLACED SHALL BE FREE FROM STANDING WATER, MUD, LOOSE ROCK AND OTHER DEBRIS.
5. CONCRETE CLASSES AND YOUNG'S MODULUS

DESCRIPTION	CLASS	E-MODULUS
MASS CONCRETE	15/38	-
BLINDING LAYERS	15/19	-
WINGWALLS & SLABS	W30/19	31GPa

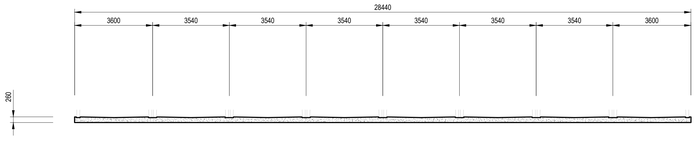
6. CONCRETE STRENTH SPECIFICATIONS

POSITION	MPA (28 DAYS)	STONE (MM)
FOUNDATIONS	30	19
BEAMS	30	19
SLABS	30	19
WALLS	30	19

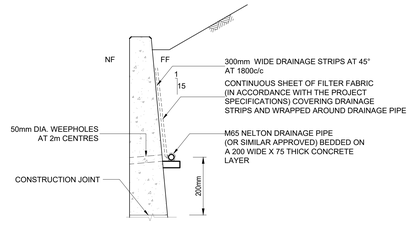
7. NO PUMPING OF CONCRETE SHALL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. THEAFTER CONTRACTOR SHALL THOROUGHLY COMPACT ALL CONCRETE MEDIATELY AFTER IT HAS BEEN PLACED IN POSITION WITH THE AID OF EITHER APPROVED IMMERSION VIBRATIONS AND VIBRATING SHUTTERS FOR THIN SECTIONS, TOGETHER WITH RODS, SPATULAS, SHOVELS, ETC. IF NECESSARY.
8. ALL CONCRETE SHALL BE CONTINUOUSLY CURED FOR 7 DAYS BY AN APPROVED METHOD - TO BE SUBMITTED TO THE ENGINEER.
9. THE POSITION AND METHOD OF FORMING OF ALL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
10. 75mm BLINDING LAYER CONCRETE TO BE CAST UNDER ALL REINFORCED SLABS AND CUT-OFF WALLS.
11. CONCRETE COVER TO ALL STRUCTURAL REINFORCEMENT IS 50mm.
12. SURFACE FINISHES

TYPE OF SURFACE	FORMED SURFACES	UNFORMED
-UNEXPOSED	CLASS F1	CLASS U1
-EXPOSED TO VIEW	CLASS F2	CLASS U2
-TOP OF INVERT & APRON SLAB	N/A	CLASS U2

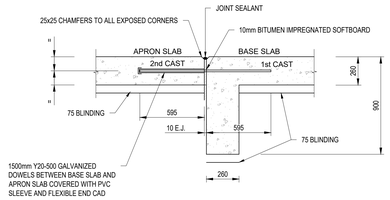
13. GENERALLY, THREE (3) CONCRETE TEST CUBES SHALL BE TESTED AT 7 DAYS AND A FURTHER 3 AT 28 DAYS. THE RESULTS SHALL BE IMMEDIATELY SUBMITTED TO THE ENGINEERS. ONE SET OF TEST CUBES HAS TO BE MADE PER 50M3 OF CONCRETE OR PART THEREOF OF EVERY ELEMENT CAST.
14. REMOVAL OF FORMWORK IN NORMAL TO HOT CONDITIONS TO BE APPROVED BY EMGINEER.
15. MIX DESIGNS SHALL HAVE A MINIMUM CEMENT CONTENT OF 300kg/m3
16. NO OPENING, SLEEVES OR PIPES OTHER THAN AS SHOWN ON THE DRAWINGS SHALL BE CAST INTO THE STRUCTURE WITHOUT THE ENGINEERS APPROVAL AND NO CUTTING FOR ANY REASON AT A LATER STAGE SHALL BE ALLOWED.
17. THE CONTRACTOR SHALL ENSURE THE REINFORCEMENT REMAINS IN THE CORRECT POSITION DURING CASTING.
18. ALL EXPOSED CONCRETE SHARP EDGES SHALL HAVE 25x25mm CHAMFERED CORNERS.
19. ONLY CEM 1 (OPC) CEMENT MAY BE USED IN ALL CONCRETE UNLESS THE ENGINEER GIVES WRITTEN APPROVAL OF A MIX CONTAINING OTHER TYPES OF CEMENT.



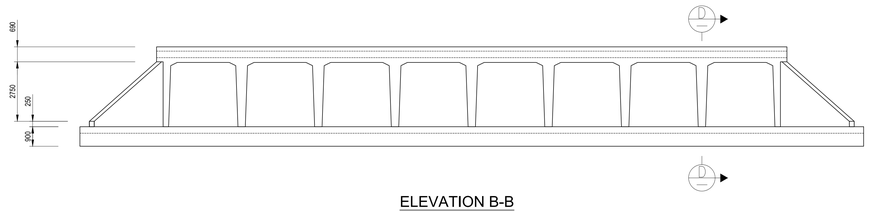
SECTION A-A
1:100



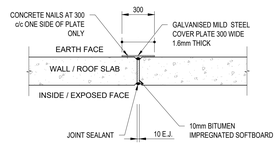
TYPICAL DRAINAGE SECTION
1 :25



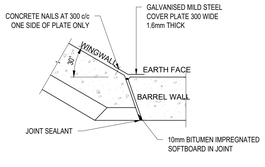
DETAIL OF EXPANSION JOINT IN BASE/ APRON SLAB
NTS



ELEVATION B-B
1:100



DETAIL OF MOVEMENT JOINT IN BARREL WALLS AND ROOF SLAB
1:50



DETAIL OF EXPANSION JOINT BETWEEN BARREL WALLS AND WINGWALL
1:50

DRAWING SCHEDULE	
DRAWING No.	DESCRIPTION
ROMH-042-07-07	GENERAL ARRANGEMENT
ROMH-042-07-08	CONCRETE DETAIL
ROMH-042-07-09	REINFORCEMENT DETAIL
ROMH-042-07-10	DETAIL SHEET 1
ROMH-042-07-11	DETAIL SHEET 2
ROMH-042-07-12	DETAIL SHEET 3

FOR TENDER

CLIENT:
MOGALAKWENA MUNICIPALITY
54 Retief Street
Mokopane
0601
TEL: (015) 491 9600
FAX: (015) 491 9638

PROJECT:
CONTRACT No. :
UPGRADING OF GRAVEL ROADS AND STORMWATER IN MOORDKOPPIE CLUSTER MOLEKANE VILLAGE

DESIGN COORDINATOR APPROVAL:
SIGNATURE DATE
PROJECT MANAGER APPROVAL:
SIGNATURE DATE
CLIENT APPROVAL:
SIGNATURE DATE

REV	DATE	DESCRIPTION	DRAWN
A	JUL. 2020	ISSUED FOR TENDER PURPOSE ONLY	SQ

REVISIONS

DRAWN: S. QUZA | CHECKED: S. SITHOLE | DESIGNED: P. SEOPA
SCALES: AS SHOWN | DATE: SEPTEMBER 2020
DRAWING TITLE: CONCRETE LAYOUT AND DETAILS MOLEKANE MAJOR CULVERT
SIZE: A0 | PROJECT No.
REV No. A | DRAWING No. ROMH-042-07- 10-08

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