

**NOTES :**

*Tank and Bunds*

The tanks and bund to be installed in accordance with SANS 10131 : 2003 The above-ground storage of petroleum products

NO.	REVISIONS

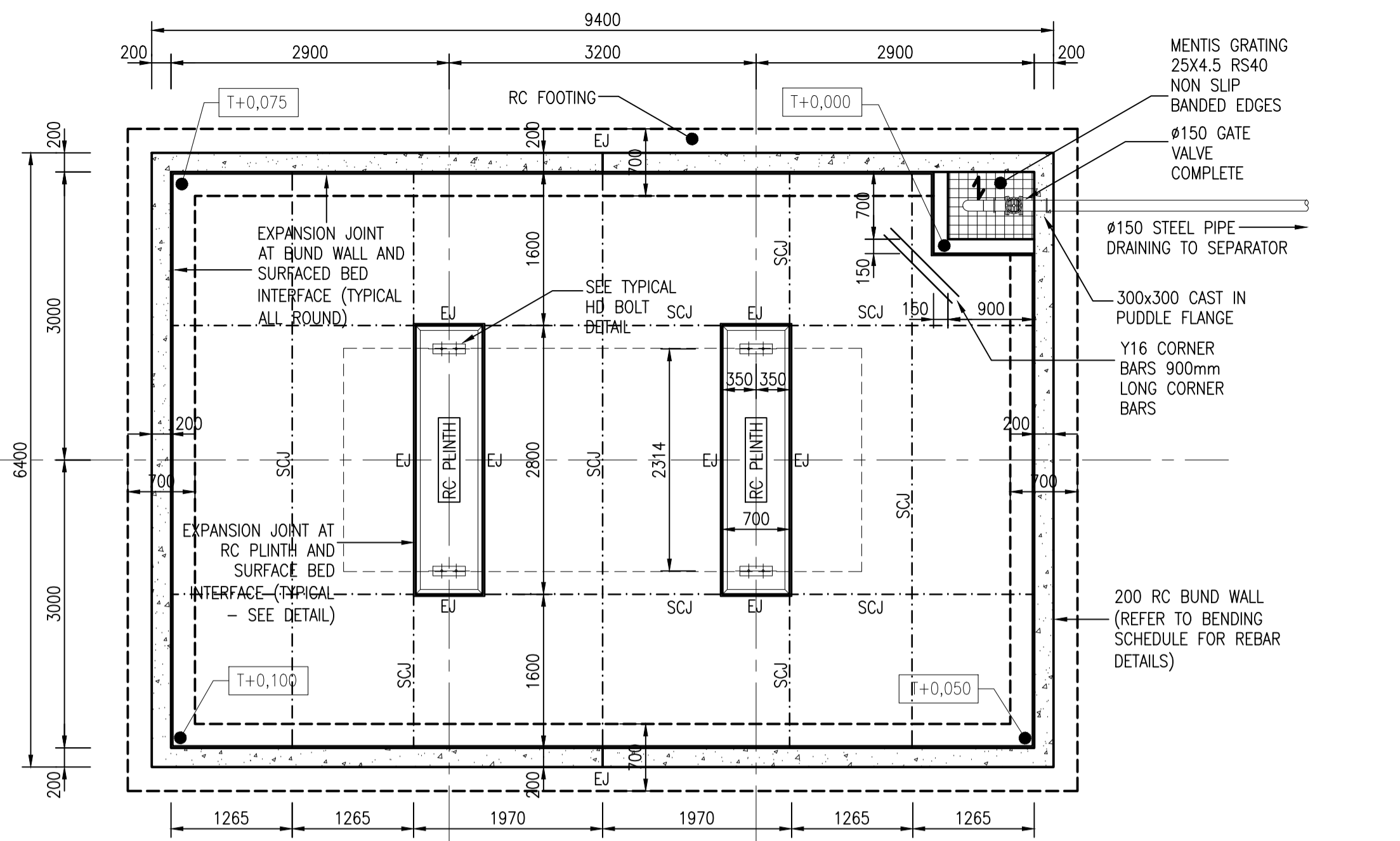
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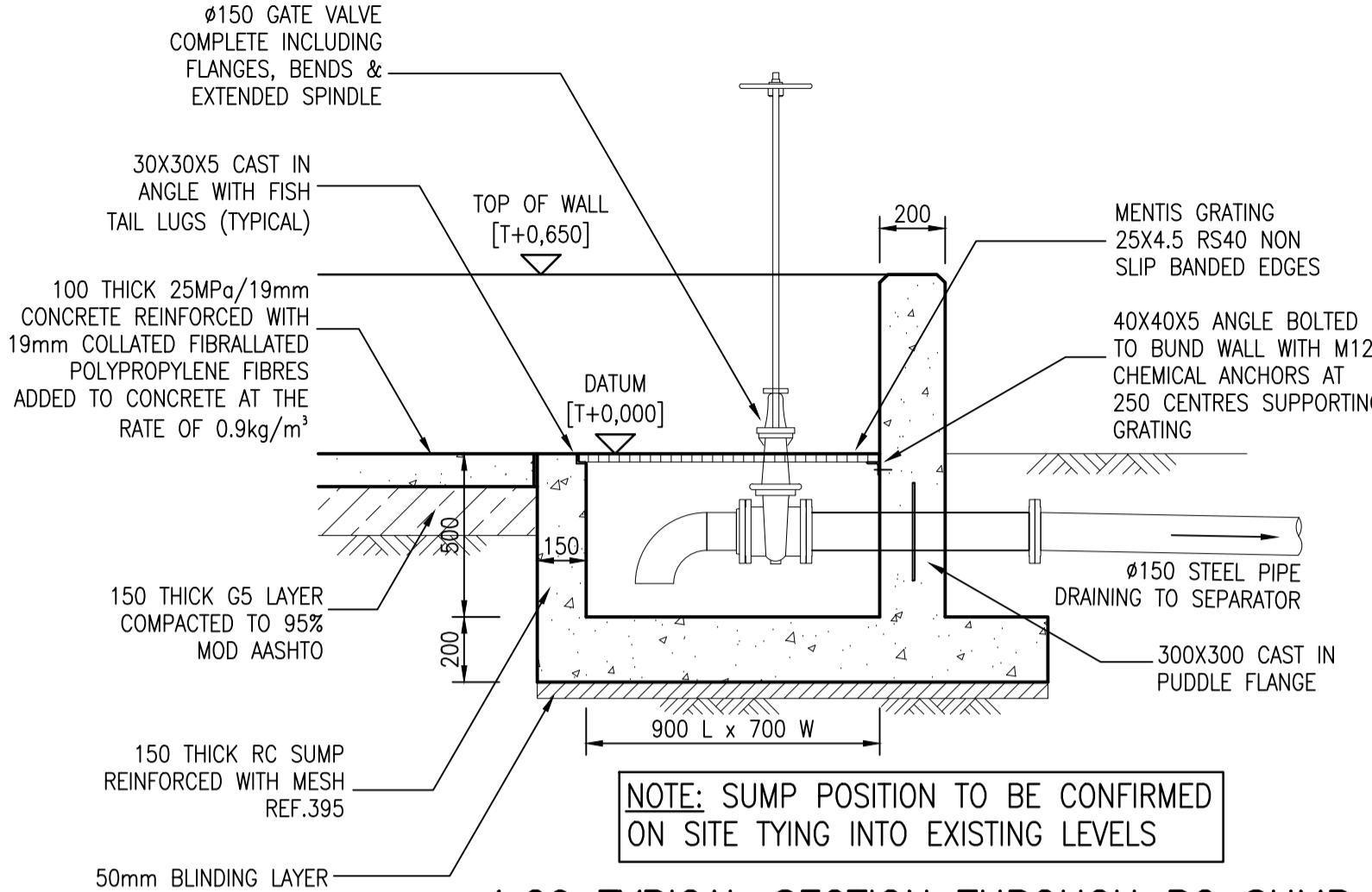
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APPROVED	.
DATE	26/02/2014
REVISED	3

DESCRIPTION:  
**A/G COMMERCIAL STANDARD  
EXAMPLES OF TYPICAL  
SITE LAYOUTS**

SCALE	1:250
DRAWING No	STD-COM-001-REV3



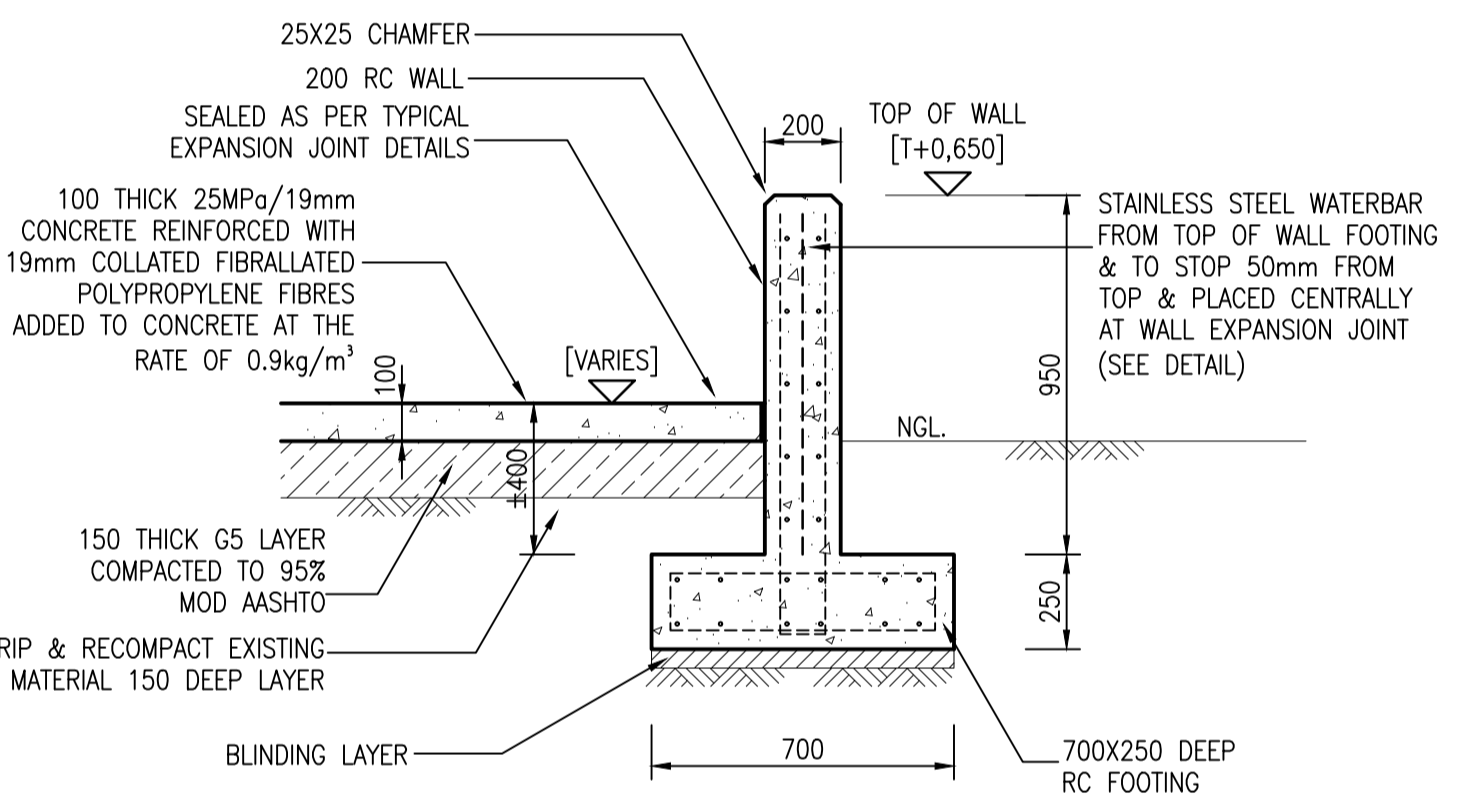
**1:50 NEW BRICK RC INFILL BUND LAYOUT**  
CONTAINMENT FOR TANK SIZE 23m<sup>3</sup>  
NOTE: DRAINAGE SYSTEM TO COMPLY WITH SANS 10131:2004 OR SANS 10089-1:2008 WHERE APPLICABLE



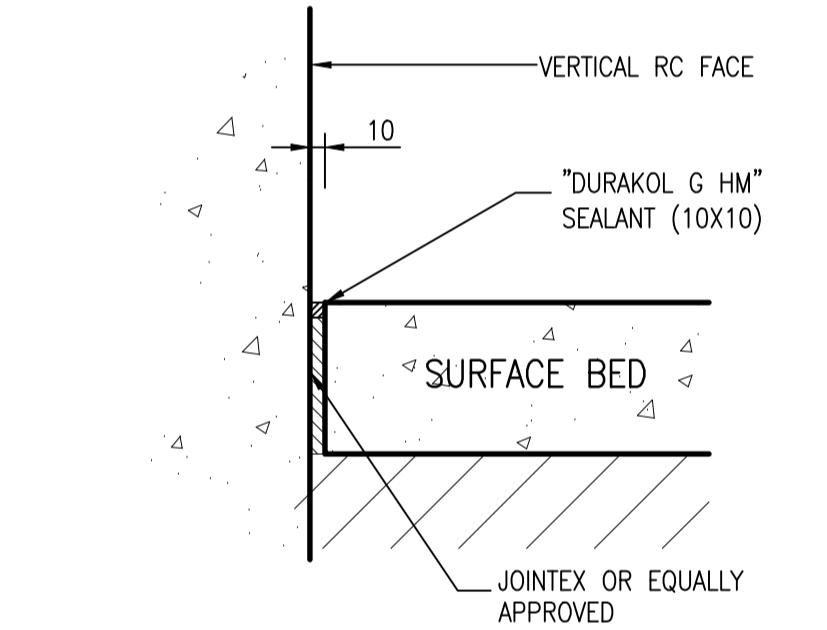
**1:20 TYPICAL SECTION THROUGH RC SUMP**  
NOTE: SUMP POSITION TO BE CONFIRMED ON SITE TYING INTO EXISTING LEVELS

- CHECKLIST: (BUND WALLS)**
- CONFIRM EXISTING DIMENSIONS AND LEVELS ON SITE BEFORE WORK COMMENCES.
  - CONFIRM EXISTING DRAINAGE LEVELS, LOCATION OF MANHOLES AND TIE IN POINTS.
  - CONTAINMENT BUND AND DRAINAGE SYSTEM TO COMPLY WITH SANS 10089-1:2008 AND SANS 10131:2004 WHERE APPLICABLE.
  - LOCATION OF NEW/EXISTING OILY WATER MANHOLES AND SEPARATOR TO BE CONFIRMED ON SITE.
  - CIVIL CONTRACTOR TO CONFIRM FINAL RC PLINTH LEVELS WITH TANKING CONTRACTOR.
  - CONFIRM SUITABLE FOUNDATION FOUNDING DEPTH, DCP TESTING TO BE PROVIDED.
  - FOUNDATION AND WALL REBAR TO BE INSPECTED BY ENGINEER BEFORE CASTING OF CONCRETE.
  - [OPTION 2] CONTRACTOR TO OMIT ALTERNATE BRICKS AT THE BASE LEVEL OF WALL ALONG THE LENGTH SO THAT MORTAR DEBRIS CAN BE FLUSHED OUT OF CAVITY BEFORE CASTING THE RC INFILL.
  - ENSURE ADEQUATE COMPACTION TO RC INFILL BY USING A CONCRETE POKER VIBRATOR OR TAMPING ROD TO ACHIEVE THE REQUIRED DENSE CONSISTENCY.
  - ENSURE PROPER COMPACTION OF LAYER WORKS, TESTING TO BE PROVIDED.
  - ENSURE STAINLESS STEEL WATER BAR IS INSTALLED TO EACH EXPANSION JOINT TO FULL HEIGHT OF WALL STARTING FROM TOP OF BASE.
  - ENSURE ALL JOINTS ARE SEALED AS PER DETAILS.
  - [OPTION 2] BRICK WALLS TO BE PROPPED DURING THE CASTING AND SETTING OF INFILL CONCRETE.

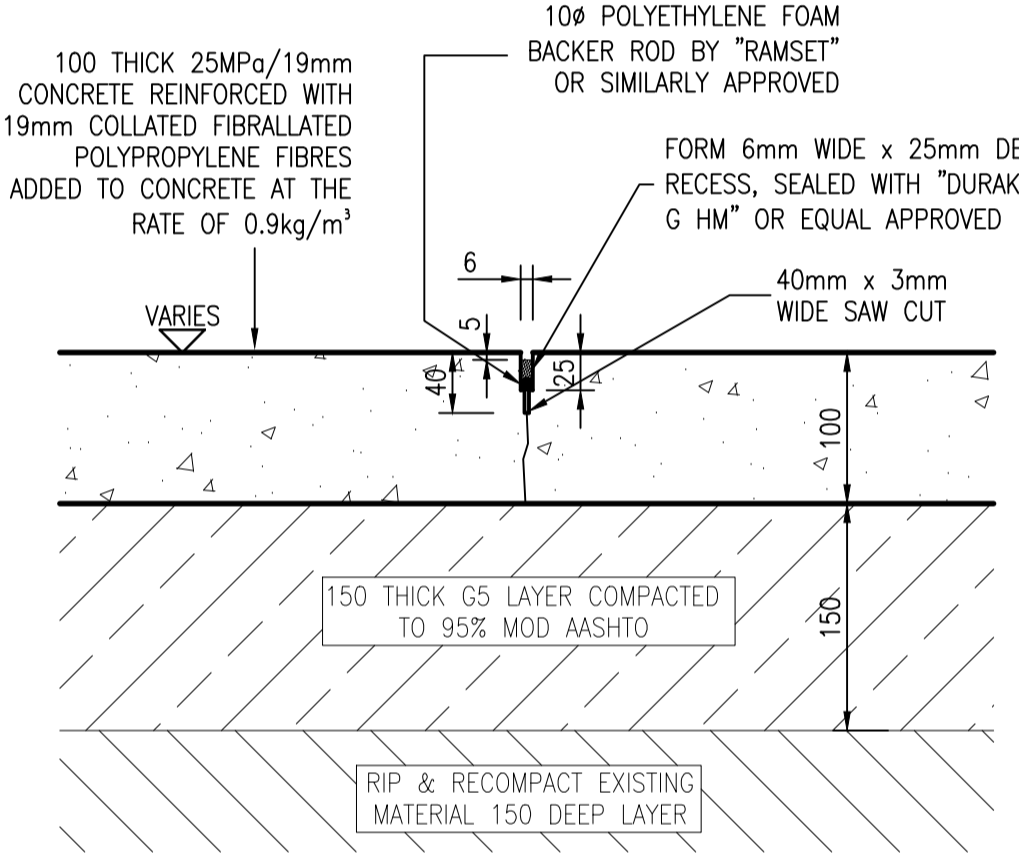
- NOTES:**
- CONCRETE NOTES:**
- REINFORCED CONCRETE (AT 28 DAYS) REQUIRED WORKS CUBE STRENGTH:  
FOUNDATIONS: 25MPa  
RC INFILL WALLS: 25MPa
  - GENERALLY, ONE CONCRETE TEST CUBE SHALL BE TESTED @ 7 DAYS AND 3 CUBES @ 28 DAYS. ONE SET OF TEST CUBES IS TO BE MADE (PER 50m<sup>3</sup> OF CONCRETE, OR PART THEREOF) DAILY OF EVERY TYPE OF CAST. THE RESULTS SHALL BE IMMEDIATELY FORWARDED TO THE ENGINEER.
  - FOUNDATION DESIGN MAX. SAFE BEARING PRESSURE: 125kPa
  - ALL FOUNDATION DEPTHS SHALL BE CONFIRMED BY THE ENGINEER ON SITE AND EXCAVATION IS TO BE INSPECTED BY THE ENGINEER BEFORE CASTING.
  - CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:  
FOUNDATIONS: 50mm  
RC WALLS: 40mm
  - REMOVAL OF FORMWORK IS AS PER SPECIFICATIONS FOR WARM TO HOT CONDITIONS:  
PROPPING TO RC WALLS: 2 DAYS
  - DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH SANS 10100, 10160, 10161, 10162, 10163 AND 10164, AS APPLICABLE.
  - SAW-CUT JOINTS IN SURFACE BEDS ARE TO BE DONE WITHIN 24 HOURS OF CASTING CONCRETE.
  - ALL TRADEMARK PRODUCTS ARE TO BE INSTALLED/APPLIED TO THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE INSTRUCTED.
  - BUND WALL AND DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH SANS 10131:2004 AND 10089-1:2008 WHERE APPLICABLE.



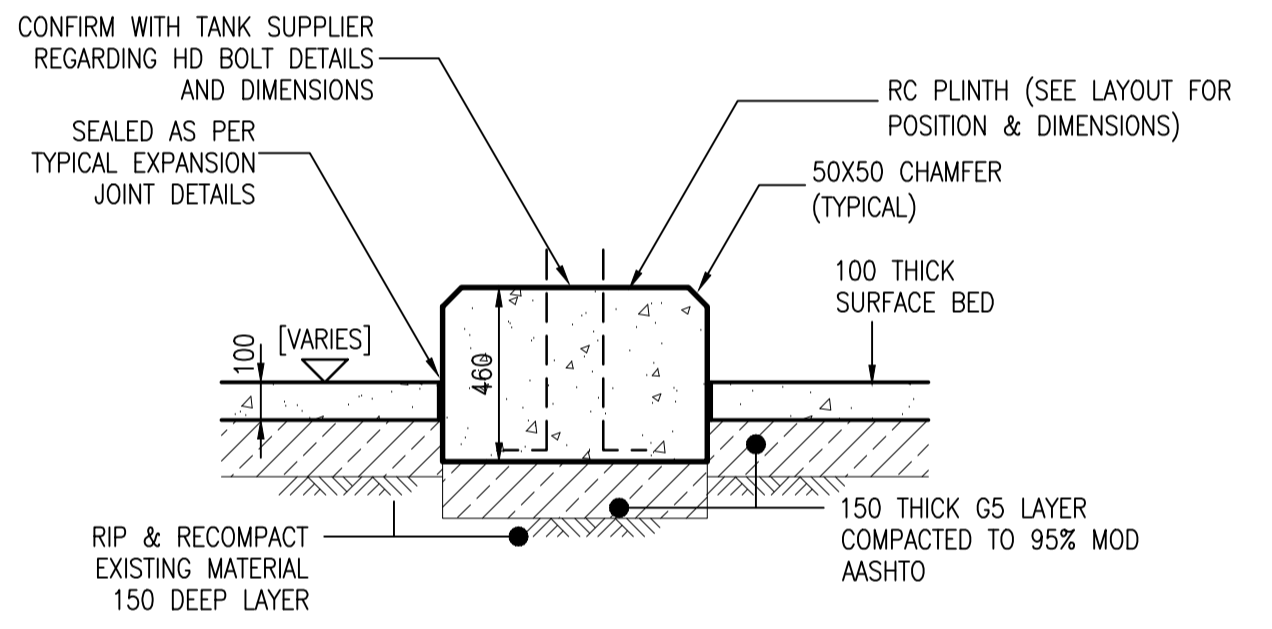
**1:20 TYPICAL SECTION RC BUND WALL (OPTION 1)**



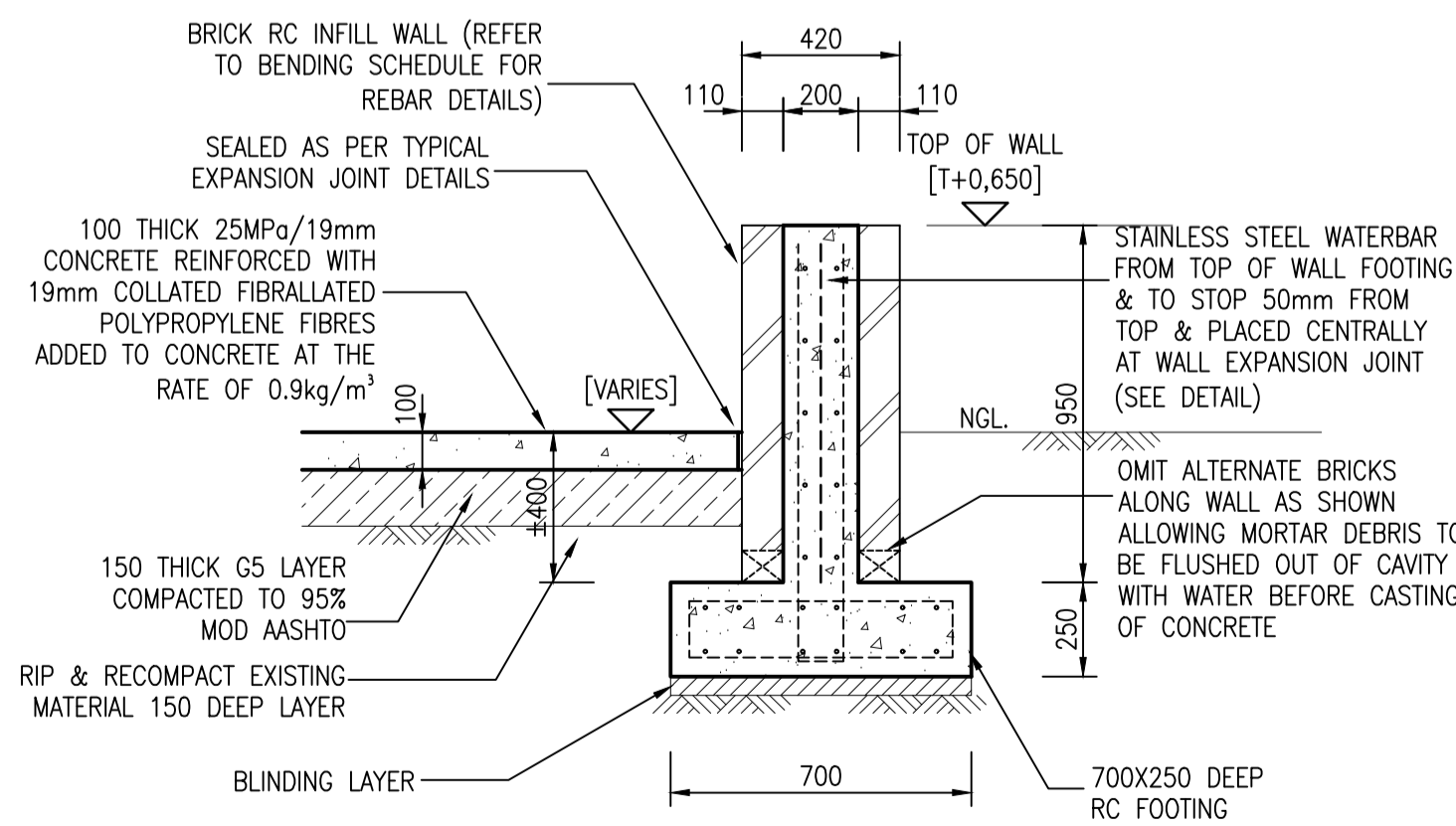
**1:5 TYPICAL EXPANSION JOINT DETAIL (EJ)**



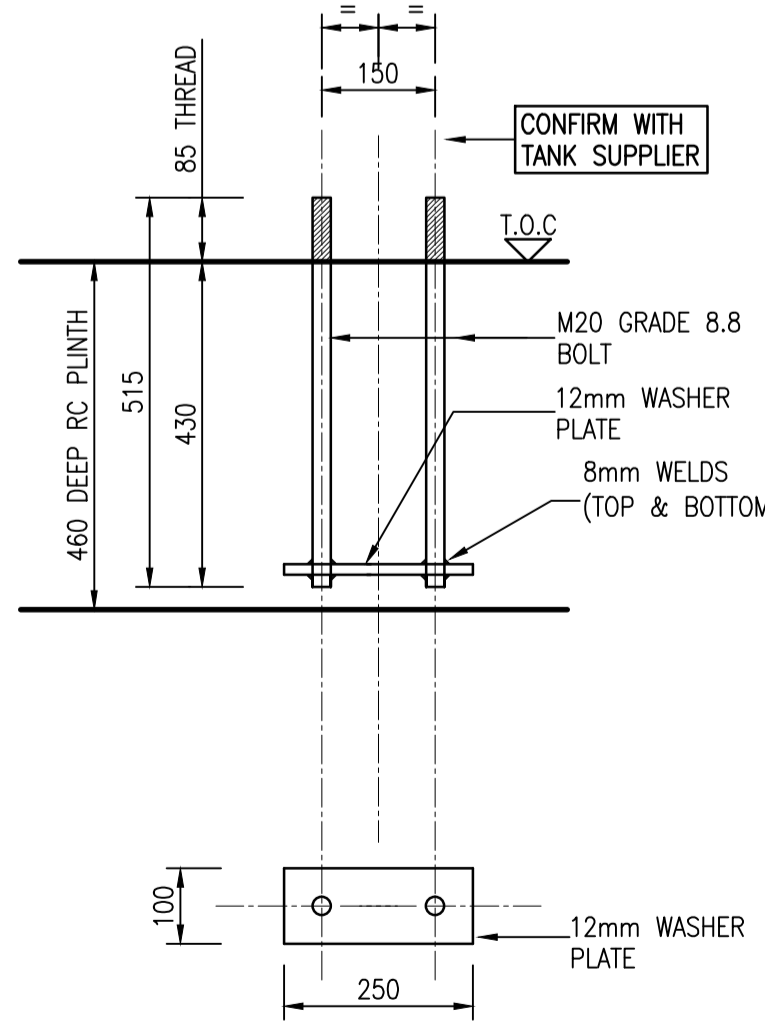
**1:5 TYPICAL SURFACE BED & SAW CUT JOINT DETAIL (SCJ)**



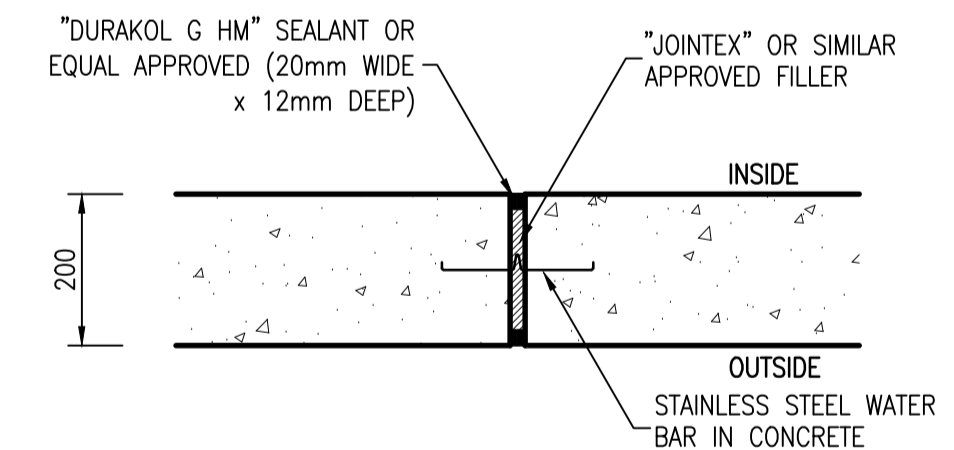
**1:20 TYPICAL TANK RC PLINTH DETAIL FOR 23m<sup>3</sup>**



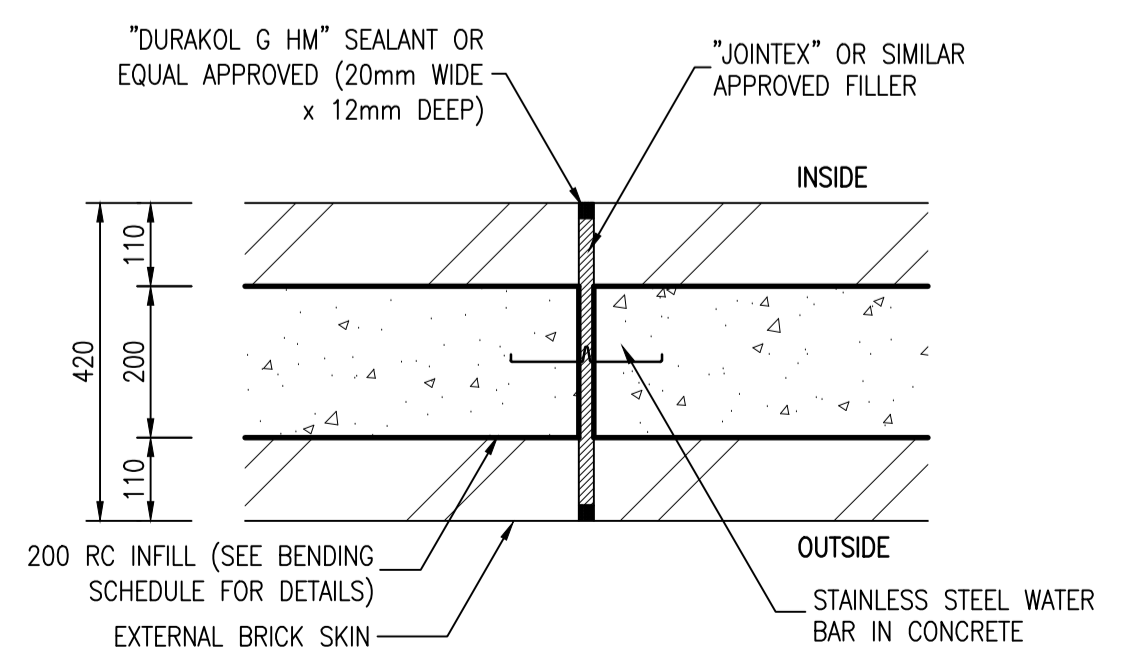
**1:20 TYPICAL SECTION THROUGH BRICK RC INFILL WALL (OPTION 2)**  
NOTE: BRICKS WALLS TO BE ADEQUATELY PROPPED AND SECURED DURING CASTING (AND SETTING) OF CONCRETE



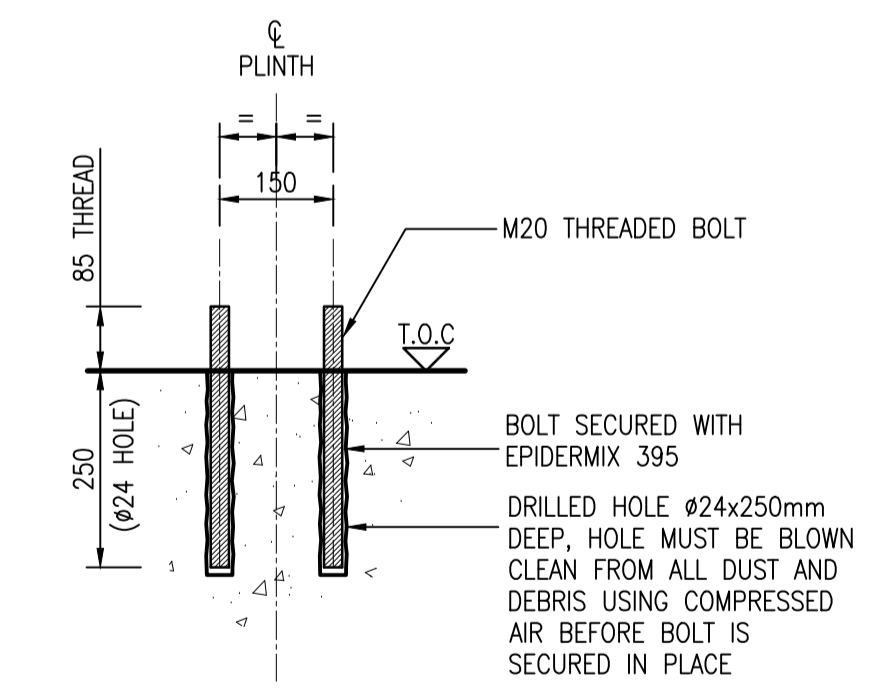
**1:10 M20 HD BOLTS DETAIL**  
FOR 23m<sup>3</sup> HORIZONTAL TANK



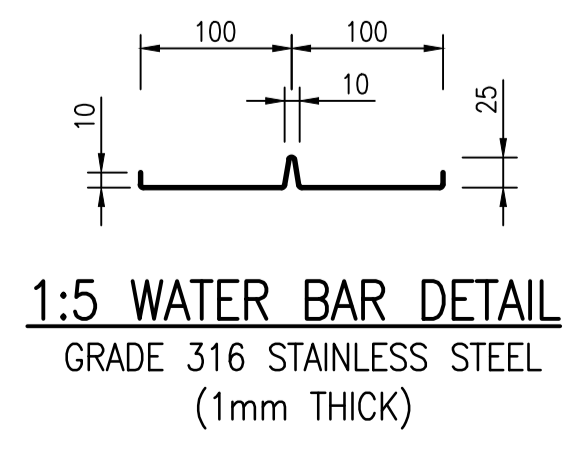
**1:10 TYPICAL EXPANSION JOINT (EJ) RC BUND WALL (OPTION 1)**



**1:10 TYPICAL EXPANSION JOINT (EJ) THROUGH BRICK RC INFILL BUND WALL (OPTION 2)**



**1:10 ALTERNATIVE M20 BOLT DETAIL**



**1:5 WATER BAR DETAIL**  
GRADE 316 STAINLESS STEEL (1mm THICK)

DATE	REVISIONS
4	
3 01/08/16	DOCUMENT NUMBERING REVISION
2 01/08/14	REVISED PLINTH SPACING
1 25/04/14	ADDED CHECKLIST
0 11/04/14	INITIAL REVISION

APPROVAL	DATE



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PROJECT  
**Engen Petroleum LTD Standards Commercial Civil**

TITLE  
**TYPICAL BUND WALL OPTIONS 1 & 2: STRUCTURAL LAYOUT & CONTAINMENT DETAILS FOR 23m<sup>3</sup> TANK**

SCALE	DATE	DRAWN	REVISION
As Shown	01/08/2016	AH	3
CHECKED		APPROVED	
CVG			

DRAWING No  
**STD-CIV-COM-006-REV3**

