

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

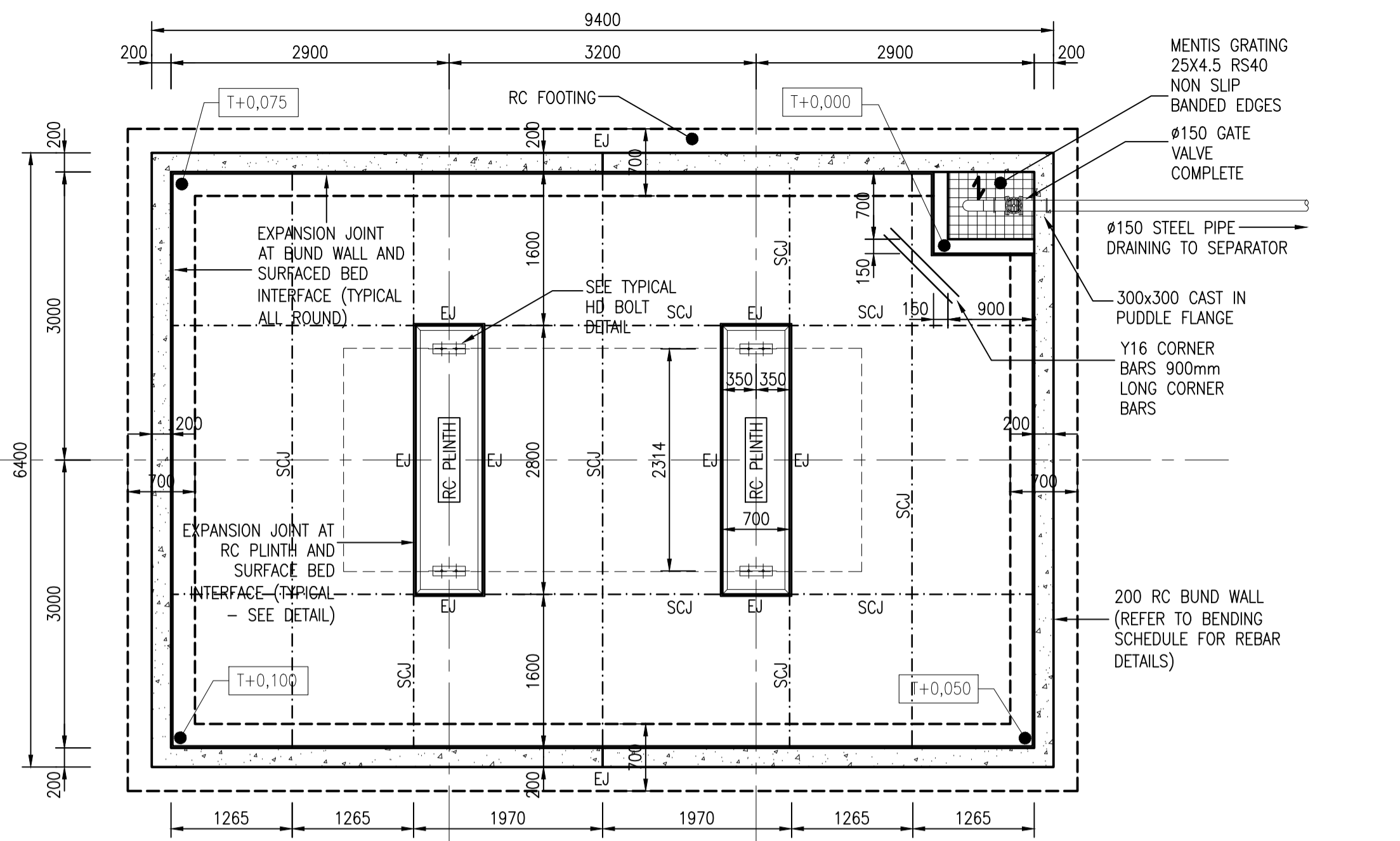
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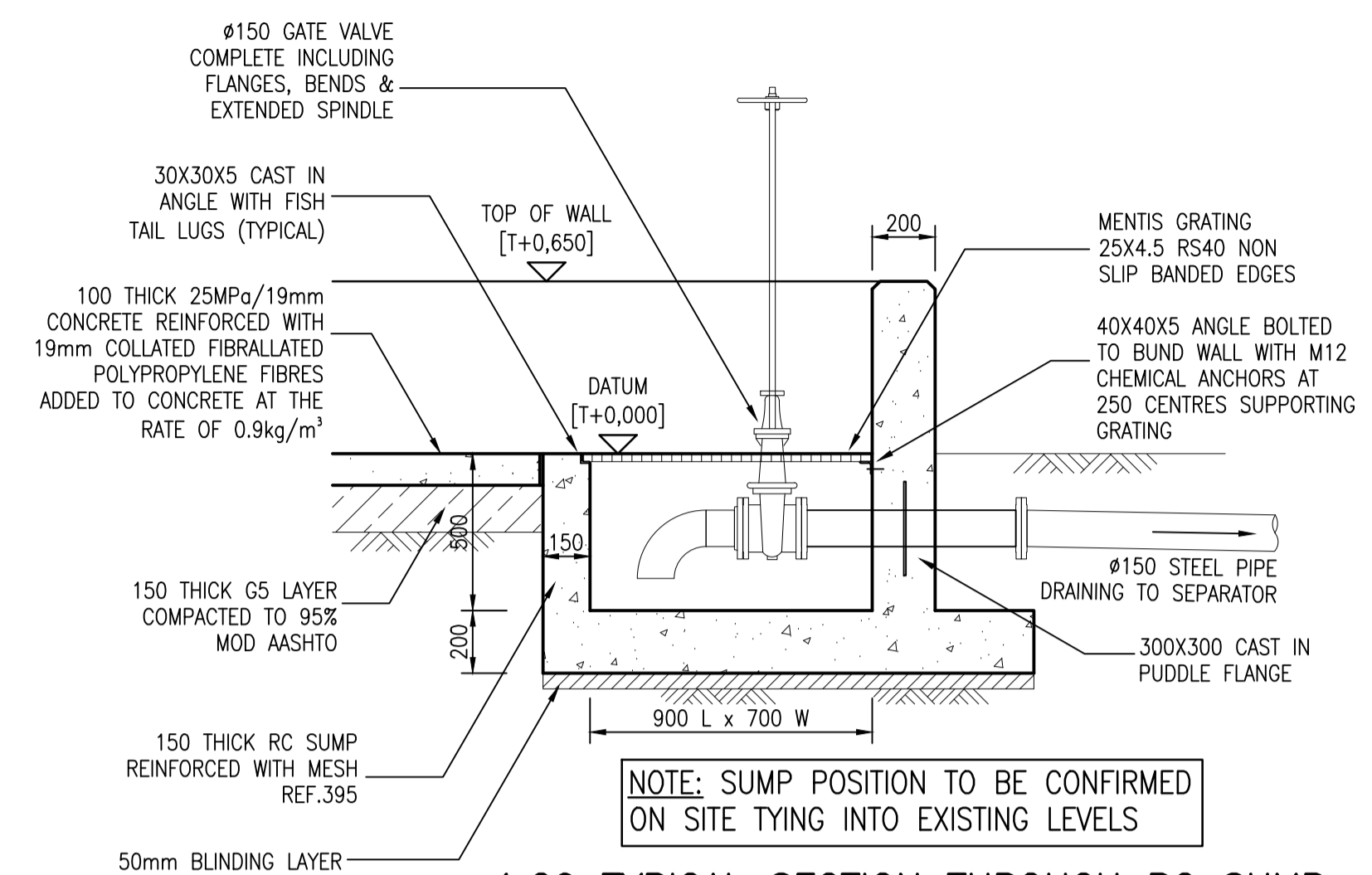
DRAWN	CAE
CHECKED	DCAR
APPROVED	.
DATE	26/02/2014
REVISED	3

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

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



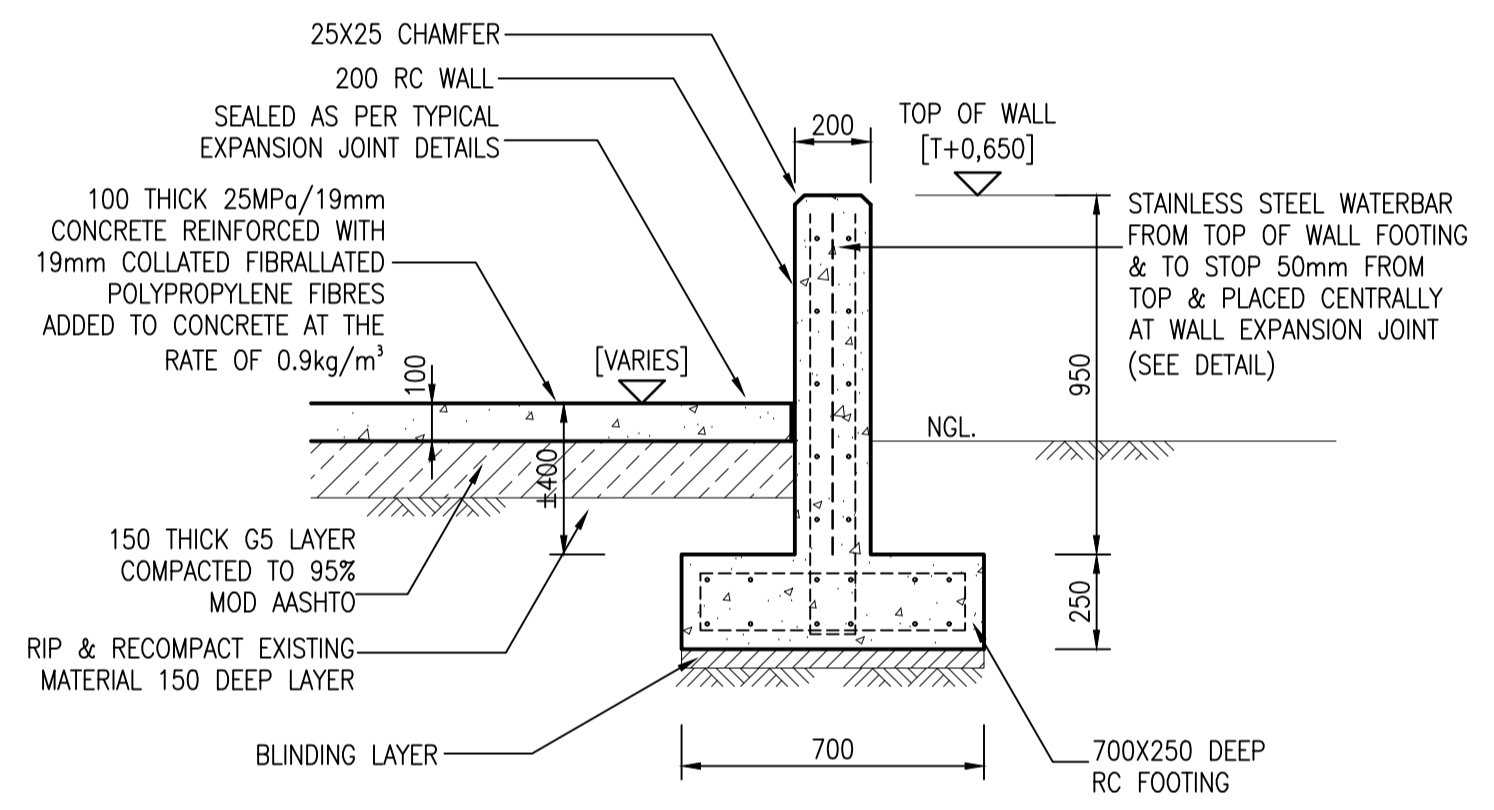
1:50 NEW BRICK RC INFILL BUND LAYOUT
CONTAINMENT FOR TANK SIZE 23m³
NOTE: DRAINAGE SYSTEM TO COMPLY WITH SANS 10131:2004 OR SANS 10089-1:2008 WHERE APPLICABLE



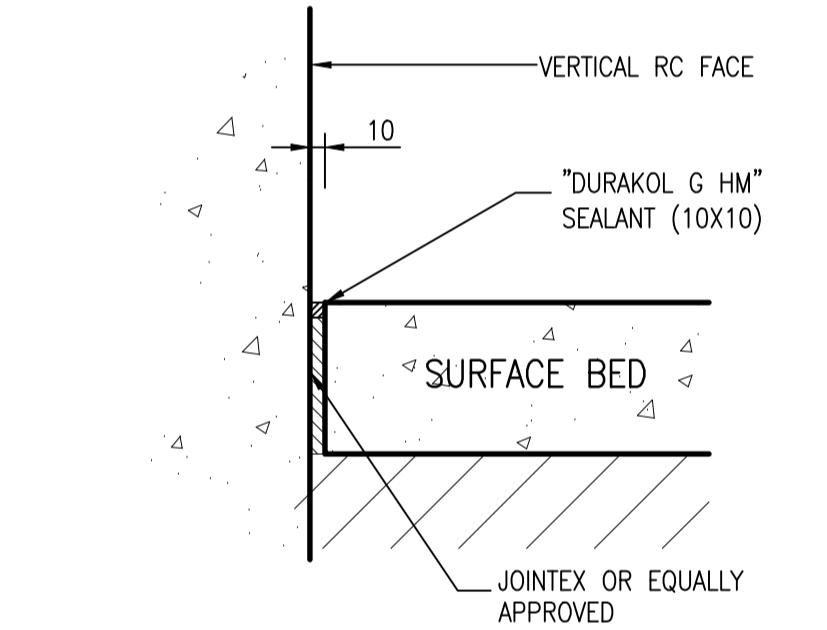
1:20 TYPICAL SECTION THROUGH RC SUMP
NOTE: SUMP POSITION TO BE CONFIRMED ON SITE TYING INTO EXISTING LEVELS

- 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.

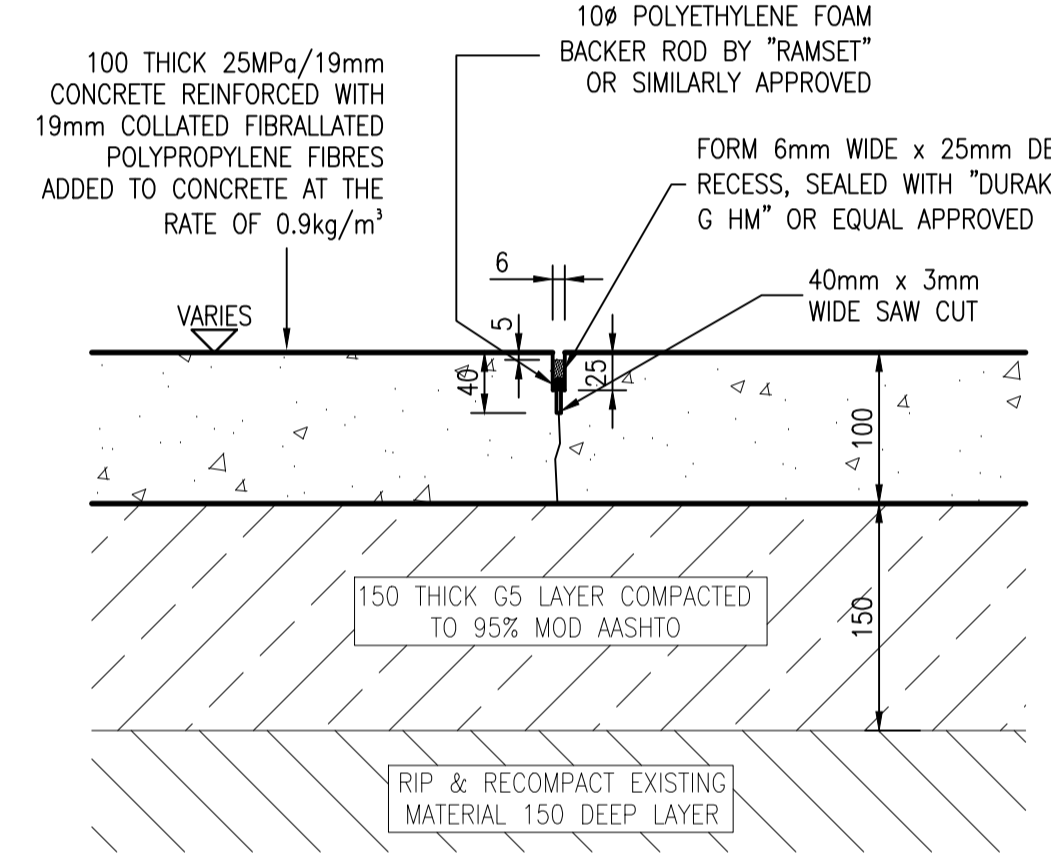
- NOTES:**
- CONCRETE NOTES:**
- REINFORCED CONCRETE (AT 28 DAYS) REQUIRED WORKS CUBE STRENGTH:
FOUNDATIONS: 25MPa
RC INFILL WALLS: 25MPa
 - GENERALLY, ONE CONCRETE TEST CUBE SHALL BE TESTED @ 7 DAYS AND 3 CUBES @ 28 DAYS. ONE SET OF TEST CUBES IS TO BE MADE (PER 50m³ OF CONCRETE, OR PART THEREOF) DAILY 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.



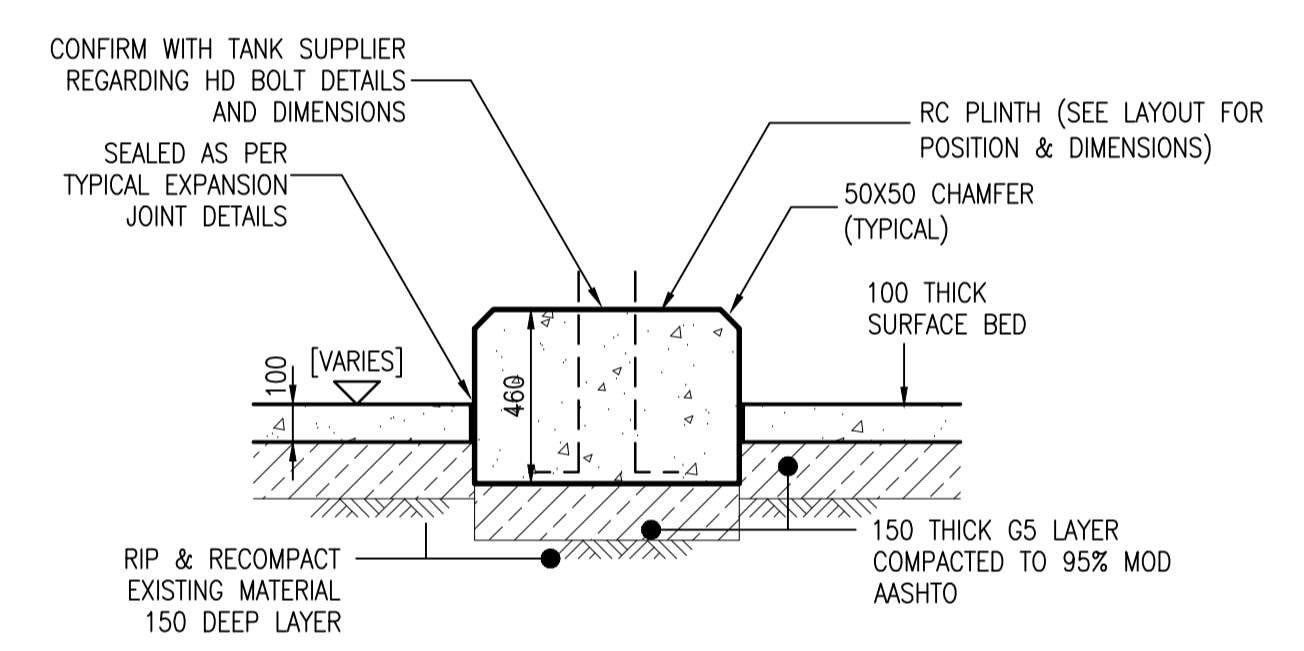
1:20 TYPICAL SECTION RC BUND WALL (OPTION 1)



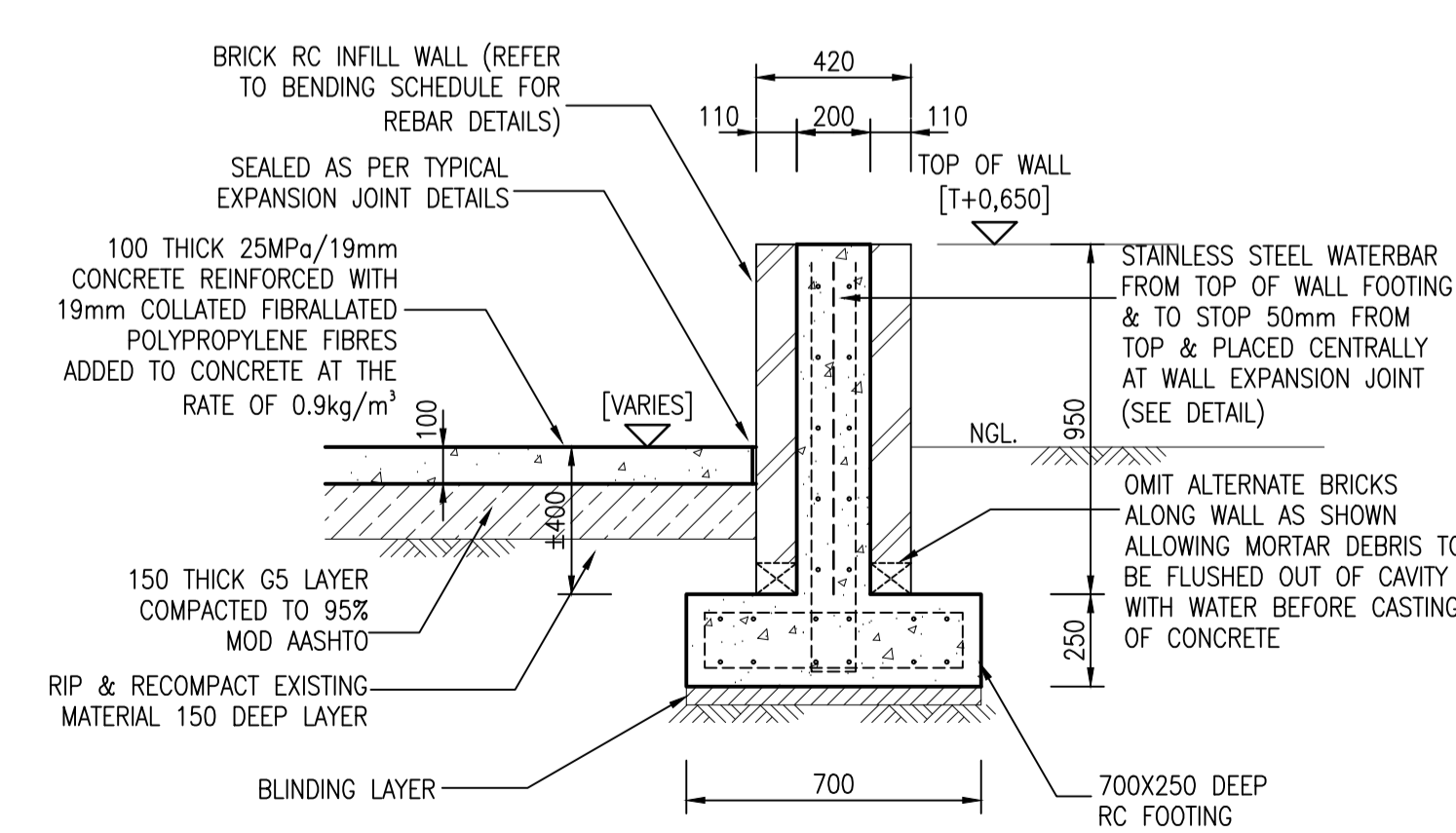
1:5 TYPICAL EXPANSION JOINT DETAIL (EJ)



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

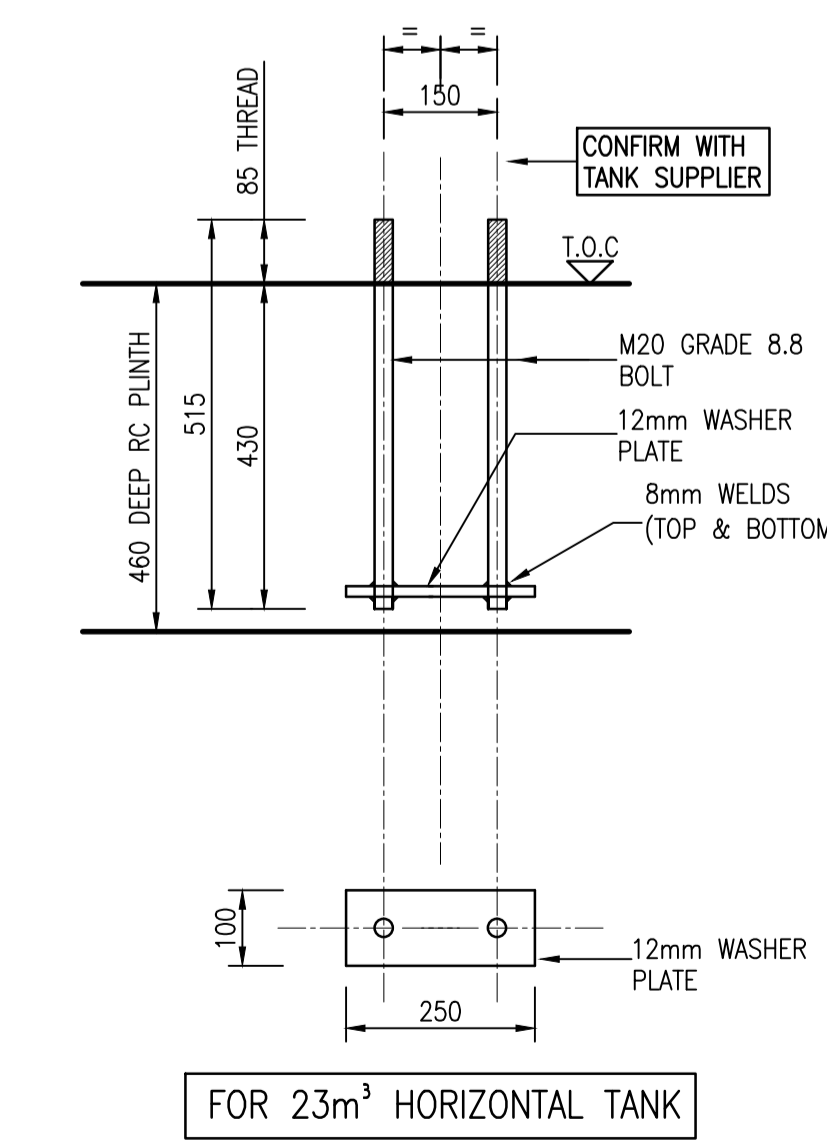


1:20 TYPICAL TANK RC PLINTH DETAIL FOR 23m³

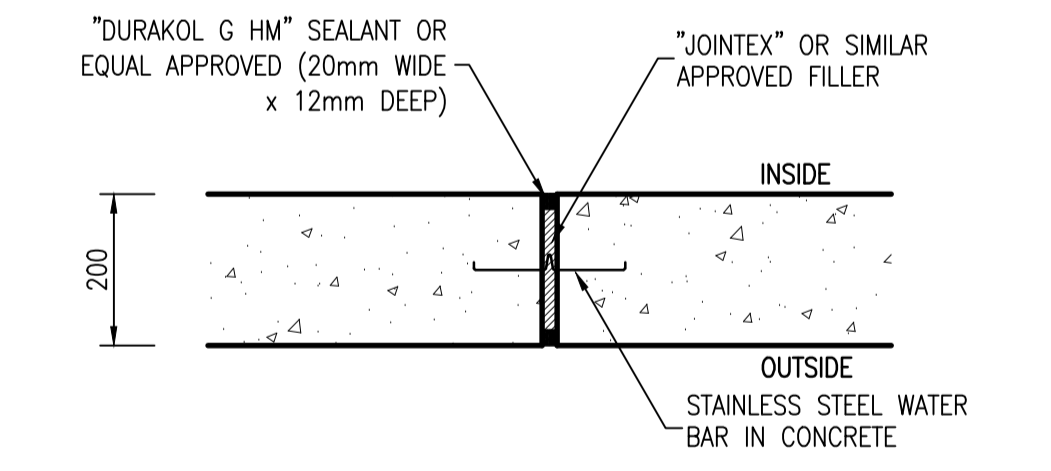


NOTE: BRICKS WALLS TO BE ADEQUATELY PROPPED AND SECURED DURING CASTING (AND SETTING) OF CONCRETE

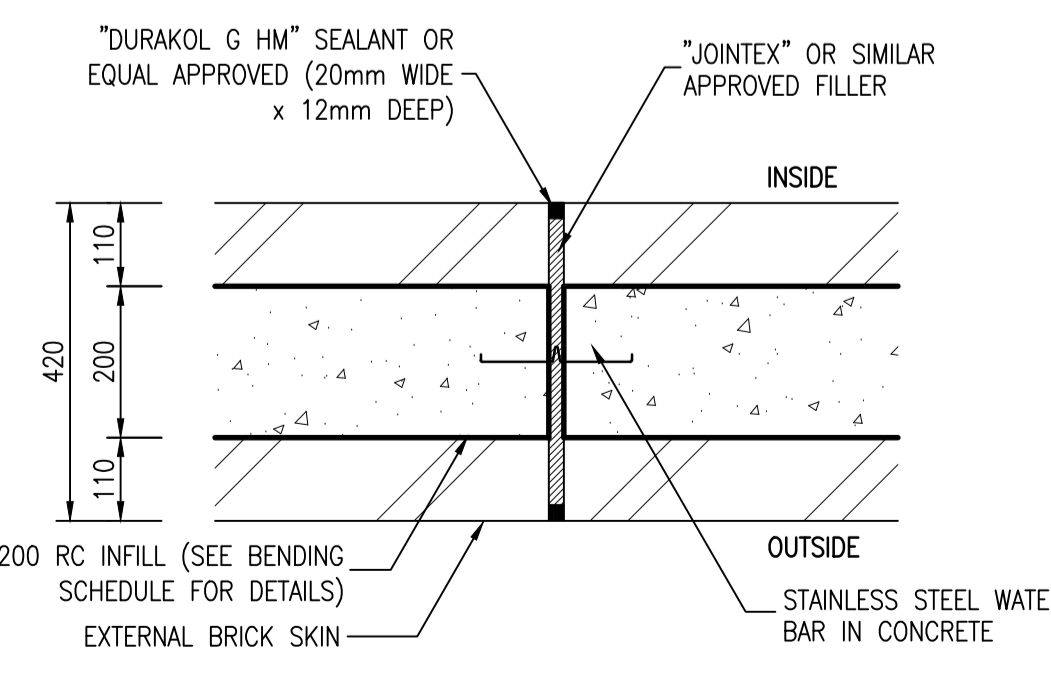
1:20 TYPICAL SECTION THROUGH BRICK RC INFILL WALL (OPTION 2)



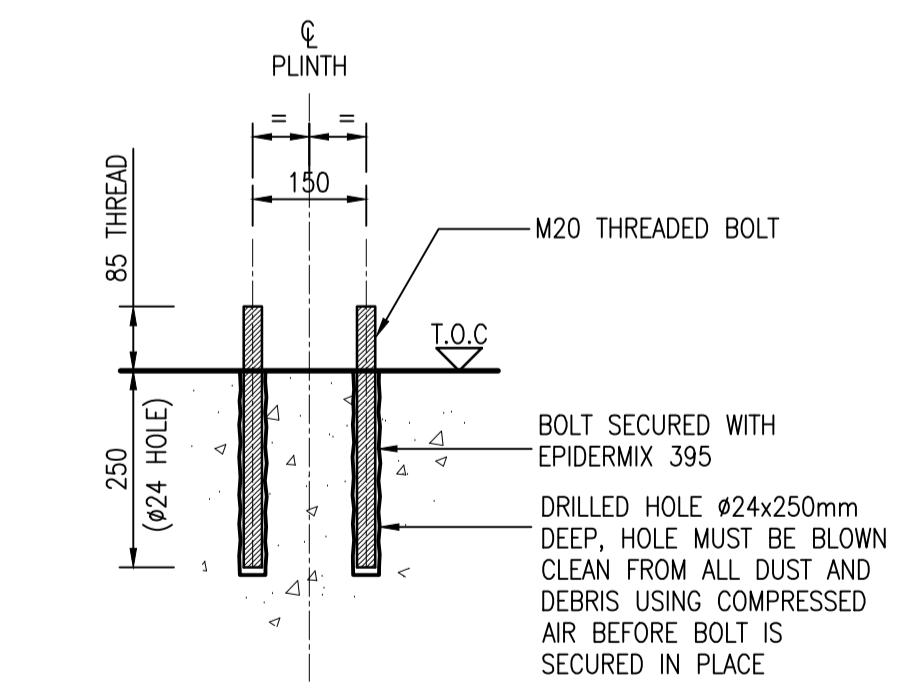
1:10 M20 HD BOLTS DETAIL
FOR 23m³ HORIZONTAL TANK



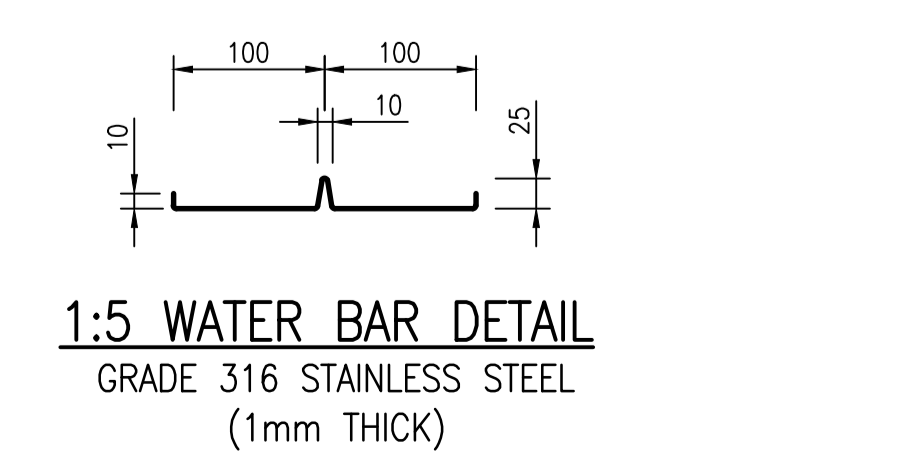
1:10 TYPICAL EXPANSION JOINT (EJ) RC BUND WALL (OPTION 1)



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
01/08/16	DOCUMENT NUMBERING REVISION
01/08/14	REVISED PLINTH SPACING
25/04/14	ADDED CHECKLIST
11/04/14	INITIAL REVISION

APPROVAL	DATE



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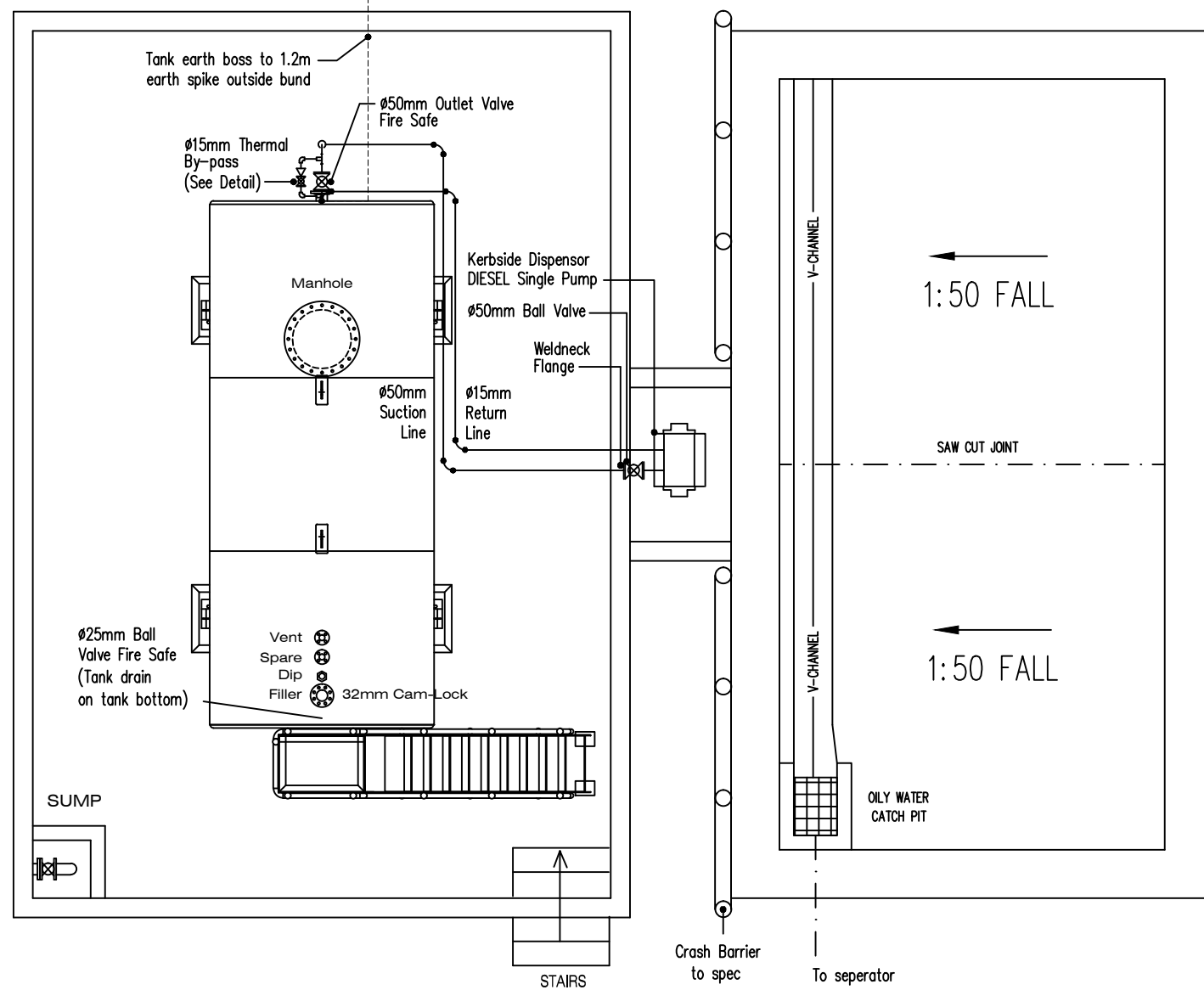
PROJECT
Engen Petroleum LTD Standards Commercial Civil

TITLE
TYPICAL BUND WALL OPTIONS 1 & 2: STRUCTURAL LAYOUT & CONTAINMENT DETAILS FOR 23m³ TANK

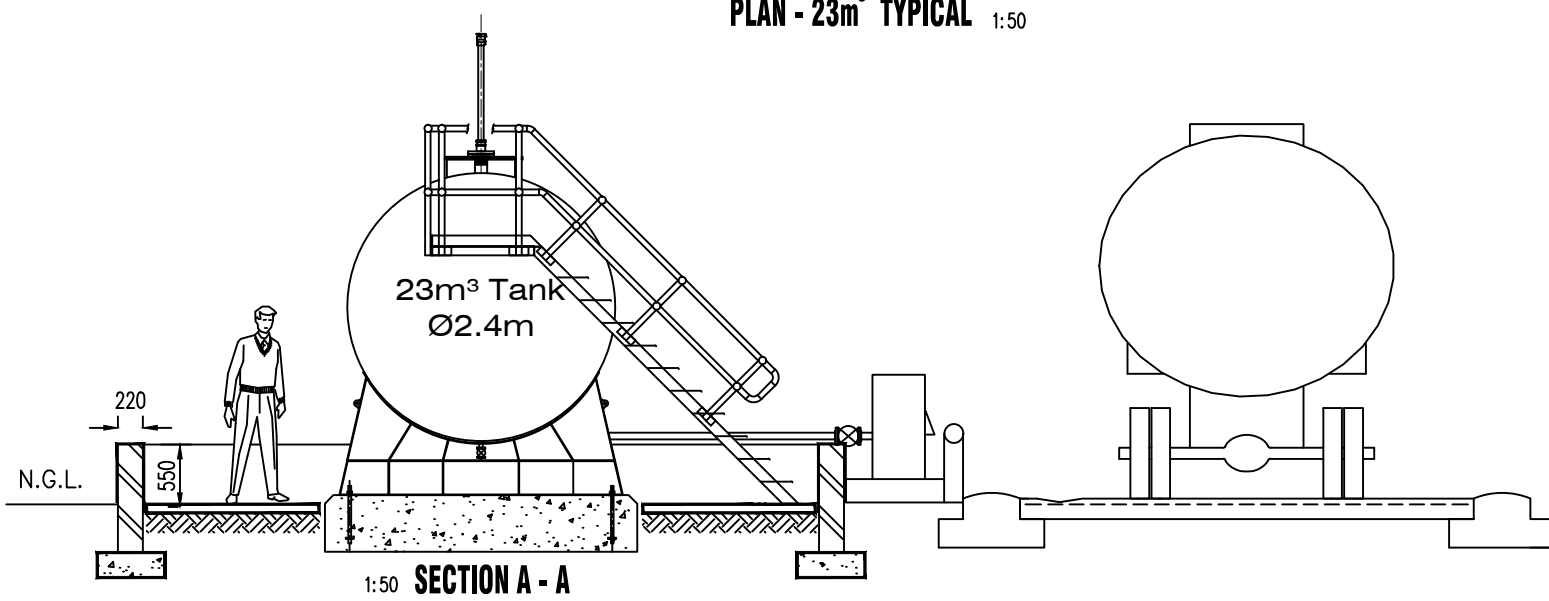
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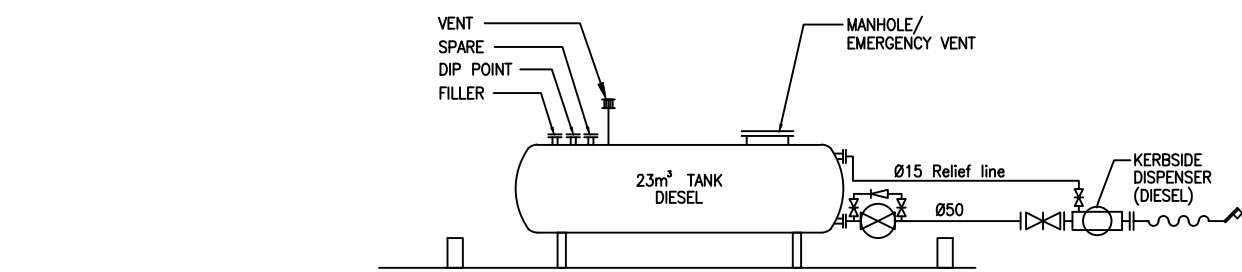
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KENTLEY & TEMPLER DRAWING No. 142548-06
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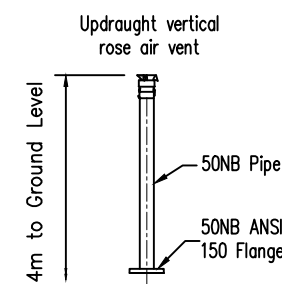
PLAN - 23m³ TYPICAL 1:50



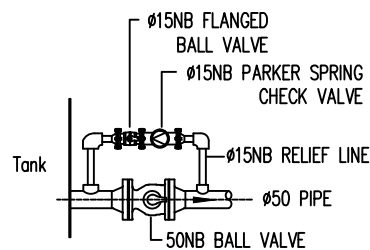
1:50 SECTION A - A



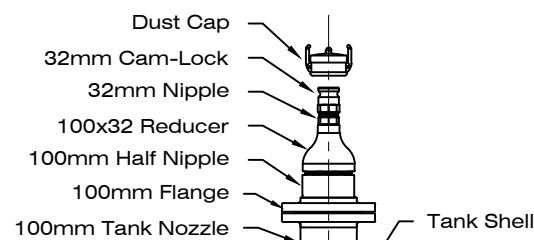
P&ID OF TYPICAL 23m³ ABOVEGROUND TANK INSTALLATION - UNLOADING PUMP WITH KERBSIDE DISPENSER.



Vent Extension Detail



Thermal Relief Detail

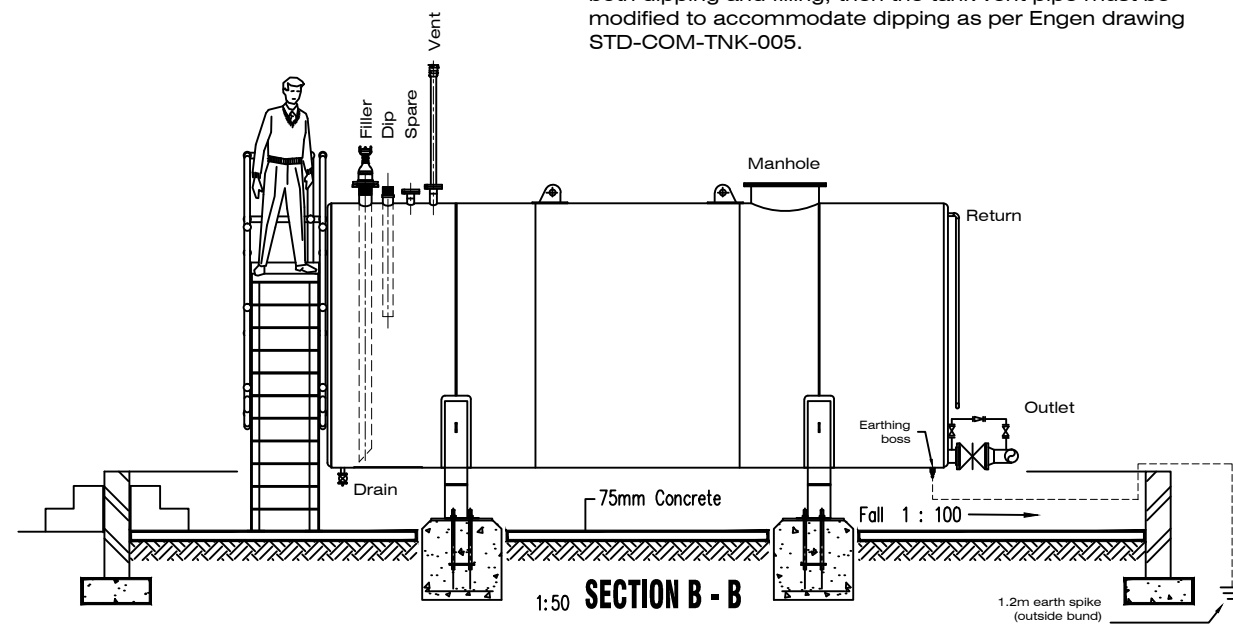


Cam-Lock Detail

P&ID LEGEND

--- LUP	STORAGE TANK
--- DIESEL	STRAINER/FILTER
--- B/G PUMP	Y-TYPE STRAINER
--- VALVE	METER
--- CHECK VALVE	METER/STRAINER (SMITH)
--- ANGLE VALVE	FD PUMP
--- RELIEF VALVE	CENTRIFUGAL PUMP
--- GATE VALVE	KERBSIDE DISPENSER
--- BALL VALVE	EARTHING POINT
--- GLOBE VALVE	
--- NEEDLE VALVE	
--- BUTTERFLY VALVE	
--- PLUG VALVE	
--- J-BAY VALVE	
--- PRESSURE INDICATOR	

Note:
When aboveground tanks are refurbished with a 32mm Cam-Lock fitting on the filler nozzle, the filler can no longer be used for tank dipping. If the filler was previously used for both dipping and filling, then the tank vent pipe must be modified to accommodate dipping as per Engen drawing STD-COM-TNK-005.



1:50 SECTION B - B

REV	DATE	DESCRIPTION
7	22/09/14	CAM-LOCK DETAIL ADDED
6	25/03/14	NEW TYPE SPILL SLAB ADDED
5	24/02/14	DRAWING UPDATED
4	24/10/13	FILLER CONFIGURATION CHANGED
3	16/10/13	TANK CONFIGURATION CHANGED

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DRAWN	CAE
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DATE	22/09/2014
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DESCRIPTION:
COMMERCIAL STANDARD
ABOVEGROUND PIPING DETAILS
OPTION 1 - DIRECT FILLER

SCALE	1:50
DRAWING No	STD-COM-PIP-001-REV7