

**BAILEY 5000L TANK INSTALLATION INSTRUCTIONS**

- GENERAL**
1. THESE INSTALLATION INSTRUCTIONS ARE APPLICABLE FOR A BAILEY 5000L TANK ONLY AND DO NOT APPLY FOR ANY OTHER TANK TYPE.
  2. FAILURE TO FOLLOW THESE GUIDELINES MAY RESULT IN TANK FAILURE OR TANK FLOTATION. IT IS IMPORTANT TO READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS BELOW. CONTACT BAILEY TANKS WITH ANY VARIATIONS.
  3. THE TANK INSTALLATION IS THE RESPONSIBILITY OF THE INSTALLER AND BAILEY TANKS AND HARRISON GRIERSON CONSULTANTS LIMITED DO NOT PROVIDE ANY WARRANTY FOR ANY INSTALLATION.
  4. THE TANK HAS BEEN DESIGNED FOR LIGHT TRAFFIC LOADS ONLY AND SHALL NOT BE PLACED UNDER DRIVEWAYS, GARAGES ETC., WHERE HEAVIER LOADS ARE EXPECTED. THE RISER AREA SHALL NOT HAVE TRAFFIC LOADS UNDER ANY CIRCUMSTANCES.

**BEDDING AND BACKFILL MATERIAL**

5. BEDDING MATERIAL SHALL CONSIST OF A MINIMUM THICKNESS OF 200MM COMPACTED SAND OR PEA GRAVEL.
6. BACKFILL MATERIAL SHALL CONSIST OF CRASHED STONE OR GRAVEL, GAP20 OR SIMILAR. ALL AGGREGATES SHALL MEET SECTIONS 4 & 5 OF NZS 3121:1986.
7. ALL EXCAVATED SOIL IS TO BE REMOVED FROM THE AREA. DO NOT MIX SOIL WITH BACKFILL MATERIAL.

**EXCAVATION**

8. EXCAVATE A HOLE IN THE DESIRED LOCATION TO THE DEPTH AS SHOWN. ALLOW 200MM BEDDING THICKNESS AT BASE OF EXCAVATION. ALLOW MINIMUM OF 500MM HORIZONTAL CLEARANCE BETWEEN TANK WALLS AND EXCAVATED SURFACES.
9. ALLOW FOR A SAFE WORKING BATTER TO WALLS OF EXCAVATION. UNDER NO CIRCUMSTANCES SHALL WORKMAN BE ALLOWED INTO AN EXCAVATION WITHOUT ADEQUATE SAFETY EQUIPMENT OR WITH EXCAVATED WALLS AT A SAFE BATTER. CONSULT OSH GUIDELINES.
10. THE EXCAVATION IS REQUIRED TO BE KEPT DRY WHILE BACKFILLING PROCEEDS. PUMP ANY GROUNDWATER AWAY FROM THE AREA OR PROVIDE ADEQUATE DRAINAGE.

**BURIAL DRY INSTALLATION**

11. IN AN AREA WHERE GROUND WATER IS NOT EXPECTED TO RISE ABOVE THE BASE OF THE TANK, THE CONCRETE COLLAR IS NOT REQUIRED. FOLLOW BACKFILLING PROCEDURE BELOW.

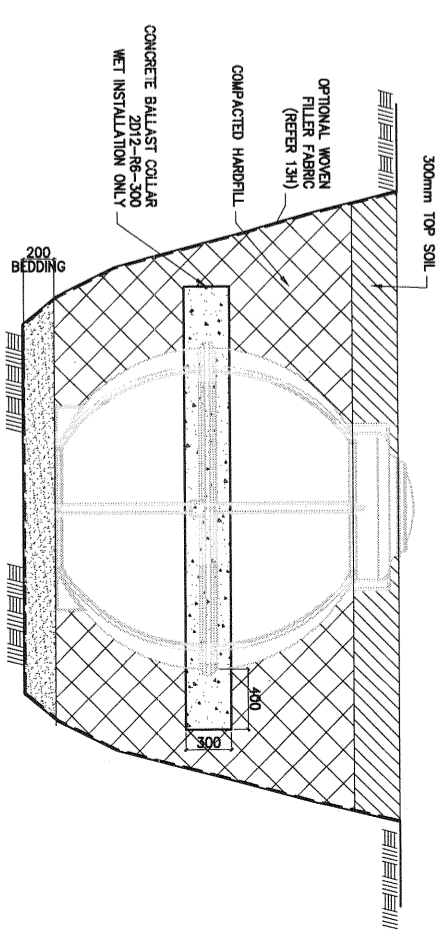
**WET INSTALLATION**

12. IN AN AREA WHERE GROUNDWATER LEVELS ARE EXPECTED TO BE HIGH OR WHERE GROUND PERMEABILITY IS LOW, A CONCRETE COLLAR IS REQUIRED AS PER THE DIAGRAM BELOW. FOLLOW THE BACKFILLING PROCEDURE BELOW WITH ADDITIONAL REQUIREMENTS FOR WET INSTALLATION.  
 NOTE - IT IS THE TANK OWNER'S RESPONSIBILITY TO ESTABLISH THE GROUND WATER CONDITIONS AND REQUIREMENT FOR CONCRETE COLLAR. IF IN DOUBT REFER TO TECHNICAL REPRESENTATIVE, GEOTECHNICAL ENGINEER OR ADD COLLAR AS A SAFETY MEASURE.

**BACKFILLING PROCEDURE**

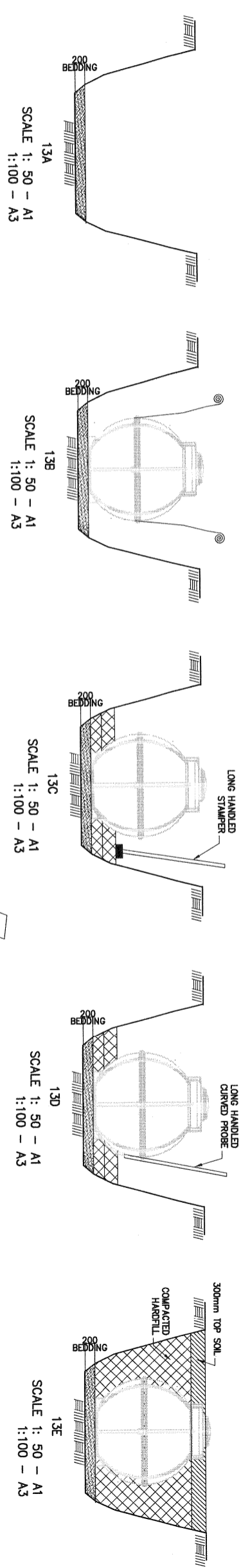
13. THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED:

- A) APPLY 200MM BEDDING MATERIAL AND LIGHTLY COMPACT TO ACHIEVE A LEVEL SURFACE.
  - B) INSTALL BAILEY TANK TO CENTRE OF HOLE.
  - C) PLACE BACKFILL MATERIAL IN LIFTS OF 300MM. EACH 300MM LAYER SHALL BE LIGHTLY COMPACTED USING LONG HANDED STAMPER TO REMOVE AIR VOIDS.
  - D) BACKFILL SHALL BE PUSHED UNDER THE CURVED BOTTOM PORTION OF THE TANK IN EACH 300MM LIFT. USE A PROBE WITH A CURVED SECTION TO SUIT THE CURVATURE OF THE TANK. ENSURE THE ENTIRE PERIMETER OF THE TANK BASE IS PROBED.
  - E) CONTINUE BACKFILL TO SURFACE USING COMPACTION AS REQUIRED IN 300MM LIFTS. TOPSOIL MAY BE USED FOR FINAL 300MM LAYER.
14. ADDITIONAL REQUIREMENTS FOR WET INSTALLATION
- A) WATER LEVELS SHALL BE KEPT BELOW BACKFILL LEVEL AT ALL TIMES USING PUMPS. DURING BACKFILLING, BALLAST TANK WITH WATER AT SAME LEVEL AS BACKFILL UNTIL COLLAR IS IN PLACE AND BACKFILLING COMPLETE.
  - B) AT MID SECTION OF TANK, CONSTRUCT A 400W X 300D CONCRETE RING AROUND THE TANK PERIMETER. REINFORCE WITH 2D12 BARS WITH R6 STIRRUPS AT 300CB. LEAVE A MINIMUM OF 12 HOURS TO HARDEN, THEN CONTINUE BACKFILL TO GROUND SURFACE.
  - C) IN CERTAIN SOIL CONDITIONS SUCH AS SILT, PEAT OR SOFT SOILS FILTER FABRIC MAY BE REQUIRED BETWEEN THE SOIL AND WATER BALLAST.



**FINAL TANK ELEVATION**  
 SCALE 1:25 - A1  
 1:50 - A3

**DRY INSTALLATION**



13A  
 SCALE 1: 50 - A1  
 1:100 - A3

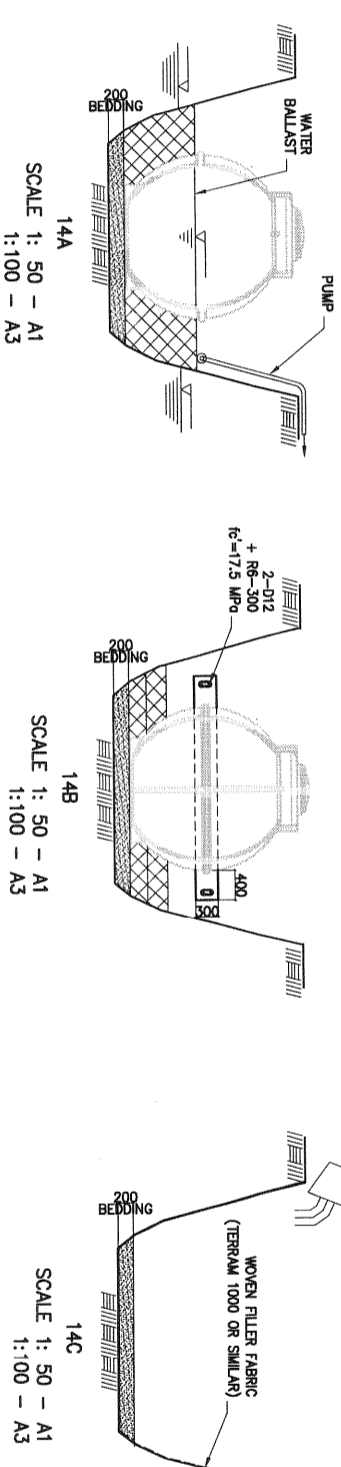
13B  
 SCALE 1: 50 - A1  
 1:100 - A3

13C  
 SCALE 1: 50 - A1  
 1:100 - A3

13D  
 SCALE 1: 50 - A1  
 1:100 - A3

13E  
 SCALE 1: 50 - A1  
 1:100 - A3

**WET INSTALLATION**



14A  
 SCALE 1: 50 - A1  
 1:100 - A3

14B  
 SCALE 1: 50 - A1  
 1:100 - A3

14C  
 SCALE 1: 50 - A1  
 1:100 - A3

DESIGNED: DATE: 06/07 SIGNATURE: [Signature]	PLANT DATE: 02.07.2007	ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND	ISO 9001 QUALITY ASSURED	 <b>HARRISON GRIERSON</b> CONSULTING ENGINEERS SURVEYORS PLANNERS 71 Great South Road Auckland Ph 09 917 5000 Fax 09 917 5001	PROJECT: BAILEY TANKS 5000 L	TITLE: BAILEY 5000L TANK INSTALLATION INSTRUCTIONS	FOR APPROVAL HG REF: 1011-124765-01 SCALES: AS SHOWN DRAWING NO: 124765-ST100
CHECKED: DATE: 06/07 SIGNATURE: [Signature] APPROVED: DATE: 06/07 SIGNATURE: [Signature]	CD REF: 124765-ST100.DWG CD XREF: [Blank] SURFER: [Blank] SURFER DATE: [Blank]	THIS DRAWING IS THE PROPERTY OF HARRISON GRIERSON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORIZED USE OF THIS DRAWING.	REV: AMENDMENT BY: [Blank] DATE: [Blank]		REV: [Blank]		