

Delivering a Healthy WA

NAVAL BASE CONCRETE SEPTIC TANKS

APPROVAL NUMBER F-AA-31114

CONDITIONS OF APPROVAL

This is to certify that the Naval Base Concrete septic tanks


Model Designation: **1500 x 1515mm**
1200 x 1515mm

Manufactured by: **Naval Base Concrete**
23 Beach Street
KWINANA WA 6167

is approved by the delegate of Chief Health Officer under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* for use within Western Australia in accordance with the conditions specified in Schedules 1 and 2.

Date of Issue: **14 August 2017**

This approval is valid for a period of five (5) years from the date of this approval or until withdrawn by the Chief Health Officer.


Richard Theobald
delegate of
CHIEF HEALTH OFFICER



SCHEDULE 1: GENERAL DESCRIPTION

SPECIFICATION SUMMARY

NAVAL BASE CONCRETE Septic Tanks	1500 (ID) X 1515 (H)	1200 (ID) X 1515 (H)
Type of Concrete used	40 MPa	40 MPa
Tank Specifications		
Tank Volume, lt	1943	1244
Tank Weight empty, kg	1780	1180
Pedestrian Lid Weight, kg	366	228
Trafficable Lid Weight, kg	800	510
Tank Height, mm	1515	1515
Tank Inlet level height, mm	1150	1100
Tank Outlet level height, mm	1100	1100
Internal Diameter, mm	1500	1200
External Diameter, mm	1640	1330
Wall thickness, mm	70	65
Base thickness, mm	100	100
Diameter of inlet and outlet, mm	100	100
Pedestrian lid thickness, mm	70	70
Pedestrian lid maximum load, kg	330	330
Trafficable lid thickness, mm	150	150
Trafficable lid maximum load, kg	4000	4000



SCHEDULE 2: CONDITIONS OF APPROVAL

1. General

- 1.1 Approval is granted in accordance with the drawings submitted and stamped by Department of Health.
- 1.2 No alteration to the design or specification of the NAVAL BASE CONCRETE septic tank shall occur without prior approval of the Chief Health Officer.
- 1.3 Any changes to the design or the construction of the NAVAL BASE CONCRETE septic tank shall be submitted for assessment and approval to the Department of Health before being made commercially available in Western Australia.
- 1.4 Conditions of approval may be varied or withdrawn at the discretion of the Chief Health Officer.
- 1.5 The serviceable life of the NAVAL BASE CONCRETE septic tank and associated fittings shall be a minimum of 15 years provided it is installed in accordance with NAVAL BASE CONCRETE recommendations.
- 1.6 Each NAVAL BASE CONCRETE septic tank shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached on the top external face of the tank adjacent to the inlet fitting with the following information:
- The brand name of the system;
 - The manufacturer's name or registered trademark;
 - The month and year of manufacture.
 - The capacity in litres
 - Top load limitations and maximum depth of cover
 - The weight of tank
 - Top load limitations and maximum depth of cover
- All marking shall be permanent, legible and clearly visible.
- 1.7 The manufacturer shall provide the following information to each Local Government where it is intended to install a NAVAL BASE CONCRETE septic tank in their area once Departmental Approval has been obtained:
- Statement of serviceable life
 - Quality Assurance Certification
 - Installation Manual
 - Owner's Manual
 - Engineering Drawings on A3 format
 - Detailed Specifications
 - A4 Plans
 - Approval documentation from Department of Health WA



2 Installation and Commissioning

- 2.1 For each installation, an application for approval to install shall be in the form of an application to install an apparatus as required under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*. Each application for installation shall be made to the Local Government and include full plans and specifications, a completed *Application to Construct or Install an Apparatus for the Treatment of Sewage* form, and pay all fees as prescribed.
- 2.2 Installation of each NAVAL BASE CONCRETE septic tank shall be carried out only by licensed plumbers.
- 2.3 The installation of each NAVAL BASE CONCRETE septic tank shall comply with the installation instructions specified by NAVAL BASE CONCRETE and shall comply with minimum clearances from buildings and property boundaries as per Local Government requirements.
- 2.4 The NAVAL BASE CONCRETE septic tank shall be installed so that the inspection openings of the tank are at (or above) ground level and installation shall be in accordance with the installation instructions specified by NAVAL BASE CONCRETE.
- 2.5 The Local Government should require that on completion of the installation of the NAVAL BASE CONCRETE septic tank, the system is inspected and checked by the installer. The licensed plumber is to certify that the system has been installed in accordance to *AS/NZS 1546.1:2008 On-site domestic wastewater treatment units Part 1: Septic tanks* and commissioned in accordance with its design, conditions of Approval and any additional requirements of the Local Government.
- 2.6 The NAVAL BASE CONCRETE septic tank shall be supplied, constructed and installed in accordance with the design as submitted and accredited by the Department of Health WA.
- 2.7 The manufacturer shall supply with each NAVAL BASE CONCRETE septic tank an owner's manual, which sets out the care, operation, and maintenance and on-going management requirements of the system.

3 On-going Management

- 3.1 The owner's manual prepared by the manufacturer shall contain a plan for the on-going management of the NAVAL BASE CONCRETE septic tank. The plan shall include details of:
- the treatment process,
 - procedures to be followed in the event of a system failure,
 - emergency contact numbers,
 - maintenance requirements including de-sludging operations.



4 Permitted uses

4.1 The NAVAL BASE CONCRETE septic tank is approved only for underground disposal.

5 Reduction in nutrient levels

5.1 The NAVAL BASE CONCRETE septic tank is not approved as a phosphorus or nitrogen removal system.



Richard Theobald
delegate of
CHIEF HEALTH OFFICER

14 August 2017

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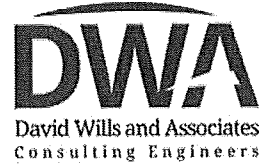


Your Ref:
Our Ref: 00036

August 14, 2017

Department of Health
189 Royal Street
East Perth WA 6004

Att: Ms Natalia Shishkina



Dear Madam,

AMENDMENT TO CERTIFICATION OF NAVAL BASE CONCRETE SEPTIC TANKS IN COMPLIANCE WITH THE RELEVANT AUSTRALIAN STANDARDS

David Wills and Associates have been requested by Mr John Carrara of Naval Base Concrete to amend the certification of their Septic Tanks in accordance with AS/NZS 1546.1:2008: On-site domestic wastewater treatment units.

Previous approval from the Department of Health has been received for the Naval Base Concrete 1500x1515 and 1200x1515 Septic Tanks on February 24, 2015.

Amendment to the Septic Tank volume is required to meet Local Authority requirements. The existing approved Septic Tanks have a volume of 3088 litres and the required minimum capacity is 3180 litres.

To achieve the required minimum volume, the inlet invert level has been increased by 10mm to 1150mm and the outlet invert level has been increased by 20mm to 1100mm from the top of the base. This will increase the Septic Tank system operating volume to 3187 litres.

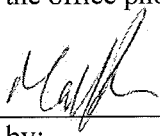
The following documents have been attached in the submission as part of this Septic Tank certification amendment:


- Details of Set of NBC 1500x1515 and 1200x1515 Septic Tanks
- Revised table of Septic Tank details

The modified Septic Tank system has been reviewed and is designed in accordance to AS/NZS 1546.1 2008 "On-site domestic wastewater treatment units Part 1: Septic tanks".

It is requested for the Naval Base Concrete existing approval to be reviewed for amendment by the Department of Health.

Should you require any further information or assistance, would you please contact Matt Ryding on the office phone number of (08) 9424 0900.


Prepared by:
Matt Ryding BEng MIEAust


Checked by:
David Wills AIT(Civil) GradDipB FIEAust CPEng
NER RPEQ RBP

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Jewda Group Pty Ltd (ABN 34 900 498 130) ATF Wills Family Trust T/A David Wills and Associates
Office: Unit 1/9 Shields Crescent, Booragoon WA Postal: PO Box 3084, Myaree WA 6154
T: (08) 9424 0900 E: dwa@dwaconsulting.com.au W: www.dwaconsulting.com.au

INSTALLATION MANUAL INTRODUCTION

Concrete septic tanks manufactured by Naval Base Concrete are available in 1200x1500mm and 1500x1500mm sizes with design and manufacture process in compliance with AS/NZS 1546.1:2008: On-site domestic wastewater treatment units.

Tanks shall be installed in a suitable area in accordance to requirements set in AS/NZS1546.1 and this location shall be away from a trafficable area, where access is possible to perform regular tank checks and pump-out of solids build-up.

Typical design life of the septic tanks is approximately 50 years.

MINIMUM AND MAXIMUM INSTALLATION DEPTH

Installation of septic tanks shall have a minimum cover of 0.2 metres and maximum cover of 1.5 metres from ground level. Cover shall be taken as the distance from the ground level to the top of septic tank lid.

MAXIMUM ALLOWABLE LOADS

Maximum allowed traffic loads on both 1200x1500mm and 1500x1500mm septic tanks shall be a W7 wheel load or equivalent, having a maximum wheel load of 7000kg.

BACKFILL AND FOUNDATION SOIL REQUIREMENTS

Required manhole backfill shall be one of the following soil types:

- a. Manufactured aggregate of open grade and clean material;
- b. Manufactured processed aggregate of dense grade and clean;
- c. Clean coarse grained soils, classification in reference to AS1726 being; GW, GP, SW, and SP;
- d. Coarse grained soils with fines of category GM, GC, SM, and SC.

Backfill around concrete septic tank shall be compacted to a minimum relative density of 90% (MMDD). This backfill shall extend a minimum of 300mm, or suitable distance to allow use of a compactor, from the outside perimeter of the septic tank for the full height of the tank.

Backfill shall be placed and compacted in layers of 300mm around the septic tank. Adequate compaction shall be achieved universally around the tank and it shall be ensured that water is added during compaction to assist the process.

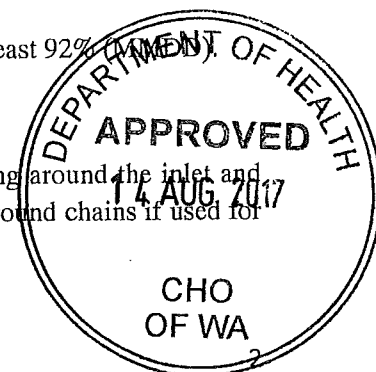
Tanks shall be installed on a stable base consisting of one of the following soil types:

- a. Clean manufactured aggregates of open grade containing little or no fines;
- b. Clean manufactured open aggregate dense grade angular crushed stone and stone/sand mixes.

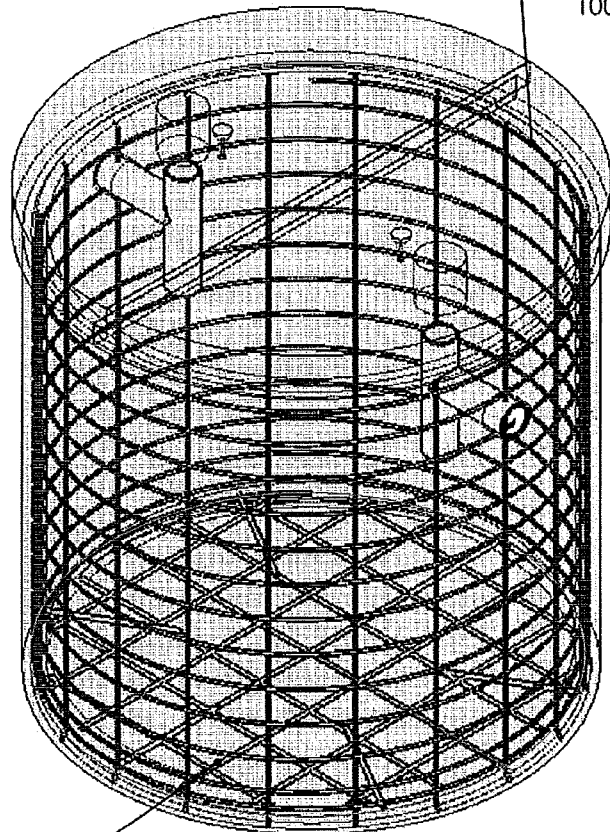
Compaction of the base foundation shall achieve a relative density of at least 92%.

HANDLING AND LIFTING PROCEDURES

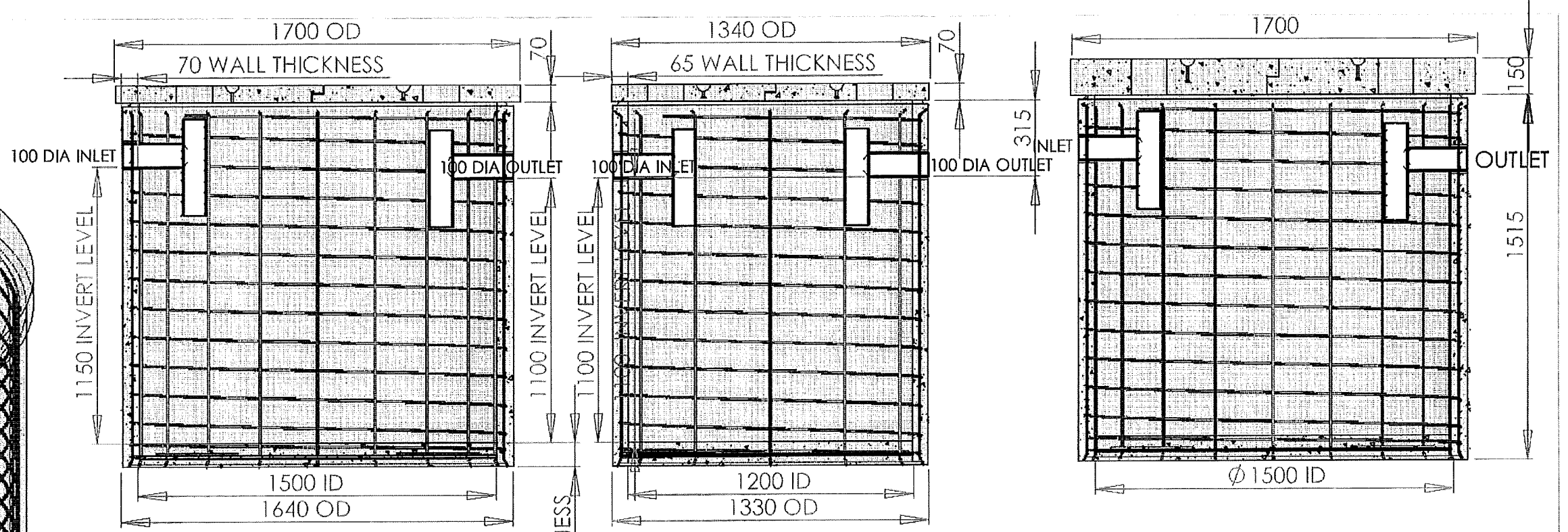
Septic tank lifting shall be done using an appropriate chain or strap sling around the inlet and outlet on either side of the tank wall. Suitable protection shall be used around chains if used for lifting to prevent damage to the concrete surrounding the inlet/outlet.



SPIRAL REINFORCEMENT CAGE

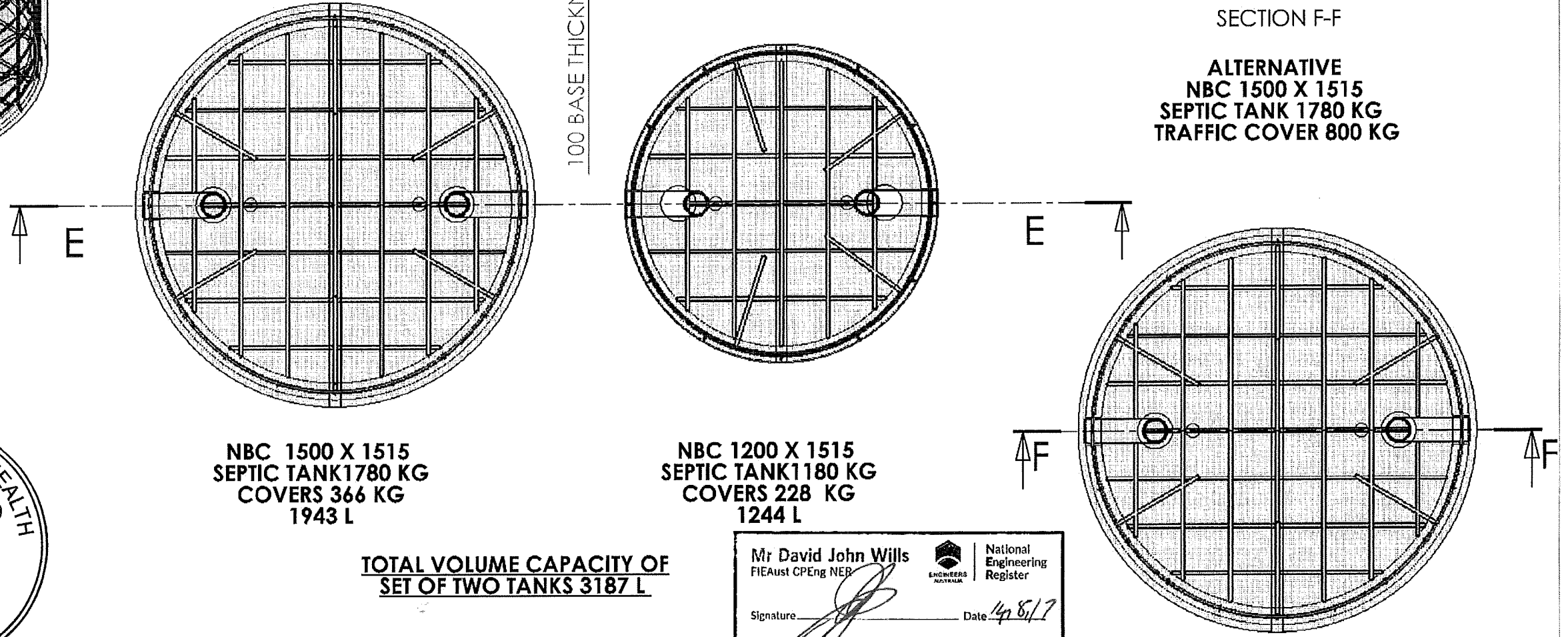


N12 BASE REINFORCEMENT



SECTION F-F

ALTERNATIVE
NBC 1500 X 1515
SEPTIC TANK 1780 KG
TRAFFIC COVER 800 KG



NBC 1500 X 1515
SEPTIC TANK 1780 KG
COVERS 366 KG
1943 L

NBC 1200 X 1515
SEPTIC TANK 1180 KG
COVERS 228 KG
1244 L

**TOTAL VOLUME CAPACITY OF
SET OF TWO TANKS 3187 L**



Mr David John Wills
FIEAust CPEng NER
National Engineering Register
Signature: [Signature] Date: 14/8/17
Registered on the NER in the area(s) of practice of Civil and Structural Engineering

BA&NA RODGERS
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THIRD ANGLE PROJECTION	ALL DIMENSIONS ARE IN MILLIMETERS
DRAWN BY: BA&NA RODGERS	DATE: 10/08/2017
CHECKED:	DATE:
CHECKED:	DATE:
APPROVED:	DATE:
JOB NO. JOB NO	SCALE: 8A3 1:20

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PROJECT: NBC SEPTIC TANKS	TITLE: DETAILS OF SET OF NBC 1500 X 1515 AND 1200 X 1515 SEPTIC TANKS
DRAWING No.	SHEET 1 of 1 REV A A3