



Government of **Western Australia**  
Department of **Health**

Our ref  
Enquiries

F-AA-31116  
Natalia Ramswell (9222 2000)

Tony D'Agnone  
General Manager  
Maddington Concrete Products  
66 Kelvin Road  
Maddington WA 6109

Dear Mr D'Agnone,

**APPROVAL OF THE MADDINGTON CONCRETE PRODUCTS SOEK WELLS**

Thank you for your submission of 10 February 2020 seeking approval to manufacture the above product.

Based on the drawings and specifications you have provided, I am pleased to advise you that approval is granted to manufacture precast concrete soak wells under the brand of Maddington Concrete Products.

It shall be a condition of approval that each soak well is provided with an inspection opening 150mm in diameter.

This approval is subject to the above product continuing to be manufactured in compliance with the approved drawings and requirements of the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*.

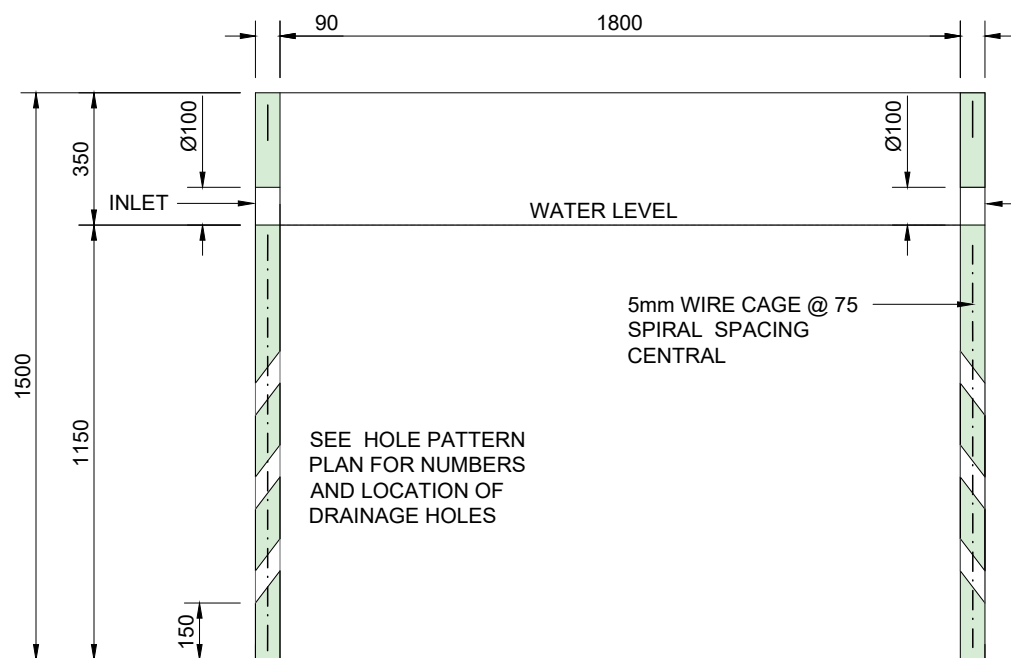
This approval may, from time to time, be amended, or may be withdrawn at any time by the Chief Health Officer. Copies of your approved drawings are enclosed.

Yours sincerely

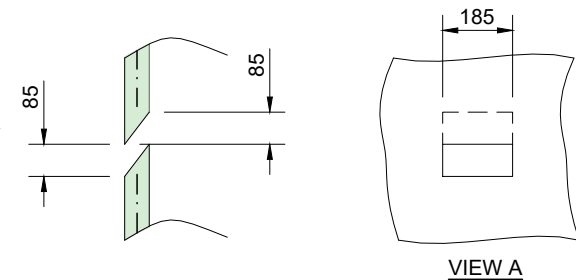
Clemencia Rodriguez  
**delegate of**  
**CHIEF HEALTH OFFICER**

18 March 2020

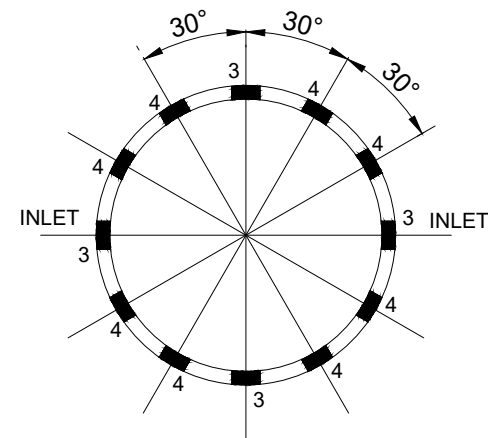
W:\Public Health\EHD\Water Unit\WASTEWATER MANAGEMENT\WASTE\Product Approvals\PreApproval Documents\Soakwells\Maddington Concrete Products\Typing\F-AA-31116 Maddington concrete Soak wells-Approval.doc



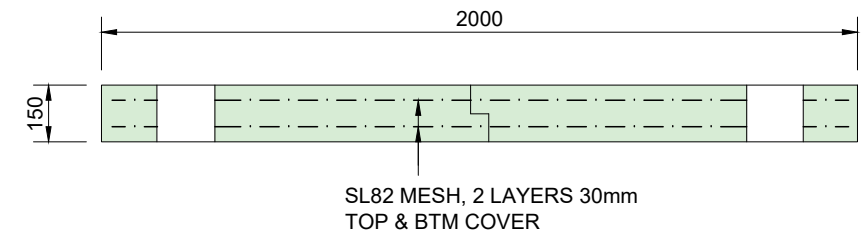
**1800mm DIAMETER SOAKWELL (MCP SW5)**  
SCALE 1:20



**DRAIN HOLE DETAIL**  
SCALE 1:20

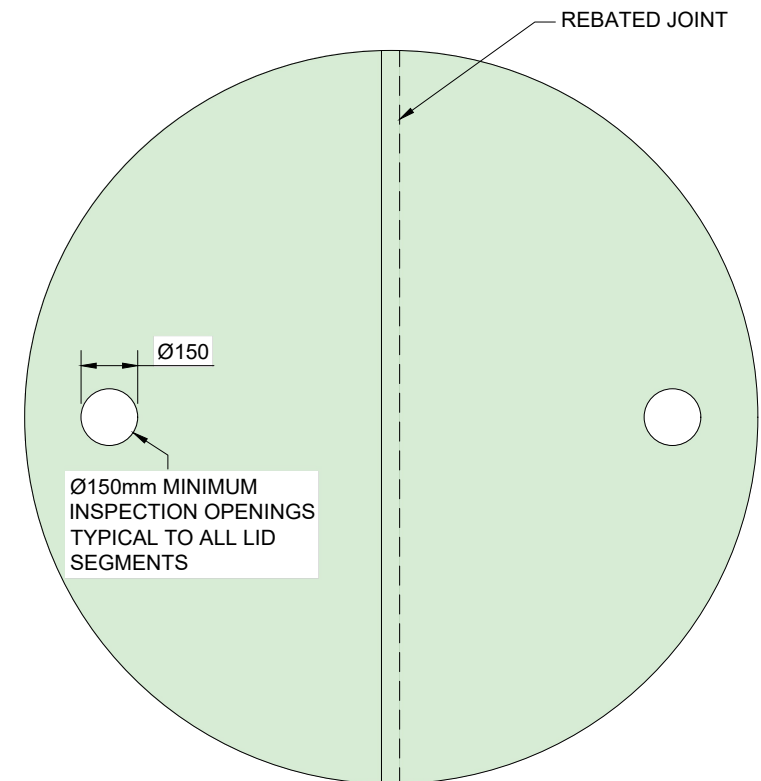


**DRAINAGE HOLE PATTERN**  
SCALE 1:50  
44No TOTAL DRAIN HOLES



**TRAFFICABLE LID**  
SCALE 1:20

INSTALLED NO DEEPER THAN 300mm BELOW GROUND



**2000mm DIAMETER SPLIT TWO  
PIECE LID**  
SCALE 1:20

**STRUCTURAL:**

- S1. STRUCTURAL LOAD HAS BEEN DESIGNED FOR THE FOLLOWING LOADS:
- PERMANENT LOAD OF STRUCTURE AS SHOWN ON DRAWINGS
  - SUPERIMPOSED LIVE LOAD (TRAFFICABLE LID ONLY) LIGHT VEHICLE LOADING - CARS, LIGHT VANS ETC NOT EXCEEDING 2500kg MASS
  - SOIL DENSITY 20kN/m<sup>3</sup>
- S2. TRAFFICABLE LID AND IS STRUCTURALLY DESIGNED TO BE INSTALLED AT NO DEEPER THAN 300mm BELOW GROUND LEVEL.

**FOUNDATIONS:**

- F1. ENSURE EXCAVATIONS ARE STABLE AND PROTECT SURROUNDING PROPERTIES AND SERVICES FROM ADVERSE EFFECTS OF GROUND WORKS.
- F2. PROVIDE TEMPORARY WORKS AS REQUIRED. PROVIDE SHORING CERTIFIED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER TO ALL DEEP EXCAVATIONS WHERE REQUIRED.
- F3. ENSURE TANK FORMATION LEVEL IS HORIZONTAL AND PROVIDE A SAFE WORKING BEARING CAPACITY OF 75kPa.

**REINFORCEMENT:**

- R1. SYMBOLS ON DRAWING FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:
- SL: DENOTES HARD DRAWN WIRE GRADE 500 SQUARE REINFORCING MESH CLASS L TO AS4671.
- R2. REINFORCEMENT TO BE CLEAN, FREE OF LOOSE MILL SCALE, RUST, OIL, GREASE, MUD OR OTHER MATERIAL THAT MIGHT REDUCE BOND BETWEEN REINFORCEMENT AND CONCRETE.
- R3. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION. SET REINFORCEMENT OUT AT EQUAL CENTRES IF SPACING IS NOT NOMINATED.
- R4. SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN SPECIFIED CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES AT 800mm MAXIMUM CENTRES EACH WAY UNO. PROVIDE ADEQUATE SUPPORT TO PREVENT DISPLACEMENT OF REINFORCEMENT BY WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.

**CONCRETE:**

- C1. WORKMANSHIP AND MATERIALS TO COMPLY WITH AS3600, AS2870, AS3610, AS1379, AS1478, AS3582, AS5100.5 AND AS3972. FOR LIQUID RETAINING STRUCTURES ALSO COMPLY WITH AS3735.
- C2. WET CONCRETE TO BE UNIFORM, HOMOGENEOUS, COHESIVE AND ABLE TO WORK READILY INTO CORNERS AND AROUND REINFORCEMENT COMPLETELY FILLING FORMWORK WITHOUT SEGREGATION, EXCESS FREEWATER ON SURFACE, LOSS OF MATERIAL OR CONTAMINATION.
- C3. FINISHED CONCRETE TO BE DURABLE, DENSE, HOMOGENEOUS MASS COMPLETELY FILLING FORMWORK, EMBEDDING REINFORCEMENT AND TENDONS, AND FREE OF STONE POCKETS, OR UNIFORM COLOUR AND TEXTURE WITH LOW PERMEABILITY AND ADEQUATE BUT NOT EXCESSIVE STRENGTH FOR GRADE.
- C4. REVIEW LOCATION OF EMBEDDED ITEM TO MINIMIZE POSSIBLE ZONES OF POOR COMPACTION THAT MAY COMPROMISE STRUCTURAL INTEGRITY.
- C5. SLUMP TO BE AS REQUIRED FOR PLACEMENT (EG PUMPING, ETC), COMPACTION AND FINISHING USE SUPERPLASTICISERS AND HIGH RANGE WATER REDUCERS TO AS1478 TO ACHIEVE ADEQUATE WORKABILITY
- C6. DO NOT ADD WATER TO CONCRETE ONCE TRUCK HAS LEFT BATCHING PLANT.
- C7. COMMENCE CURING OF CONCRETE TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING OR STRIPPING, AND WITHIN ONE HOUR. ENSURE EXPOSED SURFACES ARE NOT STAINED. ACCEPTABLE METHODS OF CURING INCLUDE:
- RETENTION OF FORMWORK
  - PONDING OR CONTINUOUS SPRINKLING WATER (MOIST CURING)
  - AN IMPERMEABLE MEMBRANE (USE WHITE OR LIGHT COLOURED PLASTIC IN HOT CONDITIONS), SEAL AROUND EDGES
  - AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET AND COVERED BY IMPERMEABLE MEMBRANE
- C8. COVER IS CLEAR DISTANCE BETWEEN ANY REINFORCEMENT (INCLUDING LIGATURES, TIE WIRE, ETC) AND OUTSIDE SURFACE OF STRUCTURAL CONCRETE.
- C9. COVER MUST NOT BE LESS THAN SPECIFIED.

REV	DATE	DESCRIPTION	DRN.	ENG.	CHK.
0	07.02.20	ISSUED FOR CONSTRUCTION	NK	JAR	JAR



DO NOT SCALE FROM DRAWING ..... IF IN DOUBT ASK !!!
Structural Certification by: Joe Arena CPEng B.E. MIEAust NPFR 24918
Signed: <i>Joe Arena</i>

PROJECT : SEPTIC TANK CERTIFICATION DESIGN AND SUPPORT
TITLE : STRUCTURAL DETAILS 1.8m DIA SOAKWELL (MCP SW5)

CLIENT : MADDINGTON CONCRETE
DWG No : J19297.01-DWG-S01
Rev. 0



## Civil & Structural Engineering Consultants

### **Structural Assessment Report** **Ref No.: J19297-REP-01a**



Owner: Maddington Concrete Products (MCP)  
Production Facility: 66 Kelvin Road, Maddington WA 6109

### **SUBJECT: Certification of Soak Wells (MCP SW5)**

#### **Introduction:**

Please be advised that a structural assessment was carried out on the MCP SW5 soak wells manufactured by MCP at their Maddington production facility. The MCP SW5 has the following dimensions:

Internal Diameter (ID): 1800mm  
Total Height (H): 1500mm

This will enable MCP to provide support documentation for their application for certification from the Department of Health WA.

This office has completed the assessment as described in the "Scope of Works" section of this report.

#### **Scope of Works:**

- Review the existing soak well design and documentation.
- Understand the requirements precast soak wells must comply in order to meet the requirements of the Department of Health of Western Australia.
- Perform calculations to ensure the adequateness of the analysed tanks and to make sure they would comply with the requirements of the Department of Health of Western Australia.
- Produce detailed engineering drawings outlining the specifications the soak well tanks have to comply with. Refer to:
  - Structural Details 1.8m Dia Soakwell (MCP SW5) Drawing No.: J19297.01-DWG-01 Rev 0

#### **Structural Integrity:**

Structural integrity calculations for the MCP SW5 soak well was carried out assuming average soil parameters common in the Perth area. The tanks have been found to be suitable for installation up to the depth specified without incurring excessive lateral earth pressures which could cause them to fail.

The trafficable lids for the soak wells have been assessed to safely resist light vehicle traffic loading in accordance with AS1170.1 Table 3.1 restricted to cars, light vans, etc., not exceeding 2500kg gross mass.

#### **Documentation:**

The following relevant documentation have been included in the Appendix to assist in the certification:

- Application for Product Approval
- Precast Soak Wells Specs and Checklist
- Structural drawing of Soak Well MCP SW5 (J19297.01-DWG-01 Rev 0)

If this office can be of any further assistance please do not hesitate to make contact.

Assessment by: Joe Arena CPEng BE MIEAust NPER 24918

Signed:

A handwritten signature in blue ink that reads 'Joe Arena CPEng'.

Dated: Monday, February 10, 2020



## PRECAST CONCRETE SOAK WELLS CHECK LIST

- 1) Open surface area in walls of soak well (Minimum 10% required) 0.6512 m<sup>2</sup>
- 2) Dimensions
- Effective Depth of soak well 1150mm
  - Internal Diameter of soak well 1800mm
- 3) Seepage holes angled to prevent ingress of backfill Yes ☒ No ☐
- 4) Concrete Specification (20MPa at 28 days minimum) 32mpa
- 5) Thickness of soak well walls (50 mm minimum) 90mm
- 6) Reinforcing mesh (minimum of F41 required) 5mm wire cage @ 75mm spiral spacing
- 7) Concrete cover over reinforcing (minimum 20 mm required) 40mm
- 8) Soak well lids (minimum 65 mm thick) TRAFFIC LID 2 part 150MM THICK
- 9) Soak well lid reinforcing mesh (minimum of F41 required) SL82
- 10) Soak well lids provided with an inspection opening 150 mm in diameter Yes ☒ No ☐
- 11) Manufacturers registered brand name to be placed on each soak well **M C P SW5**
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