

TREATMENT PLANT APPROVAL 15/2020
Plumbing and Drainage Act 2018

Approval

1. The **Aqua-Nova model 80100** (“the system”) described in the Specifications and Drawings in the attached Schedule and manufactured by **Everhard Industries Pty Ltd** (ABN 41 009 690 859) (“the manufacturer”) has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code) dated 26 October 2017.
2. Approval is granted for the secondary quality wastewater treatment system, subject to compliance by the manufacturer with the requirements of the *Plumbing and Drainage Regulation 2018*, and the conditions of approval detailed below.
3. This approval, the conditions of approval and the Schedule comprise the entire Treatment Plant Approval document.
4. Any modification by the manufacturer to the design, drawings or specifications scheduled to this approval must be approved by the Chief Executive.

Conditions of approval

5. The manufacture, installation, operation, service and maintenance of the systems must be in conformity with the conditions of this Treatment Plant Approval.
6. The secondary quality wastewater treatment system, which is an example of the approved systems, may only be used on premises that generate per day:
 - (a) a maximum hydraulic loading of 2,000 litres; and
 - (b) a maximum organic loading of 700grams BOD⁵
7. The system must continue to meet the requirements of secondary quality wastewater treatment system, producing the following effluent quality:
 - (a) 90% of the samples taken must have a BOD⁵ less than or equal to 20 g/m³ with no sample greater than 30g/m³.
 - (b) 90% of the samples taken must have total suspended solids less than or equal to 30g/m³ with no sample greater than 45g/m³.
 - (c) 90% of the samples taken must have a thermotolerant coliform count not exceeding 200 organisms per 100 mL with no sample exceeding 1000 organisms per 100 mL.
 - (d) Total chlorine concentration must be between 0.5g/m³ and 2.0 g/m³ in four out of five samples taken.
8. Each system must be serviced in accordance with the details supplied in the owner’s operation and maintenance manual.
9. This approval does not extend, apply to, or include the land application system used in conjunction with an approved system installed on premises.

10. Each system must be supplied with —

- (a) a copy of this Treatment Plant Approval document;
- (b) details of the system;
- (c) instructions for authorised persons for its installation;
- (d) a copy of the owner's manual to be given to the owner at the time of installation; and
- (e) detailed instructions for authorised service personal for its operation and maintenance.

11. At each anniversary of the Treatment Plant Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD⁵ and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier's expense. The following results must be reported to the Chief Executive;

- a) Address of premises;
- b) Date inspected and sampled;
- c) Sample identification number;
- d) BOD⁵ for influent and effluent; and
- e) TSS for influent and effluent.

12. The Chief Executive may, by written notice, cancel this approval if the manufacturer/supplier fails —

- a) to comply with one or more of the conditions of approval; or
- b) within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.

13. This approval may only be assigned with the prior written consent of the Chief Executive.

14. This approval expires on 01 January 2024 unless cancelled earlier in accordance with paragraph 12 above.

Treatment Plant Approval

Approved by: Stacey McInnes

Delegated Authority

Department of Housing & Public Works



Stacy McInnes

**A/Director
Plumbing, Drainage and Special Projects
Building Legislation and Policy**

Date approved: xx July 2020

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TREATMENT PLANT APPROVAL No. 15/2020
Plumbing and Drainage Act 2018

SCHEDULE

Attachment 1

Drawings and Specifications for the

Aqua-Nova model 80100

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Schedule 1: Specification

Aqua-Nova (80100) (Riser Options Aqua-Nova (80110), Aqua-Nova (80114)) Aerated Wastewater Treatment System

The Aqua-Nova (80100) Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 10 persons (2000L/day) to a Secondary Standard

BOD ₅	<	20g/m ³
TSS	<	30g/m ³
Thermotolerant Coliforms	<	200cfu/100mL
Total Chlorine Concentration greater or equal to 0.5g/m ³ less than 2.0g/m ³		

The Aqua-Nova (80100) is contained in injection moulded 3000L polypropylene septic tanks and collection wells however may be supplied with 300mm or 450mm fitted risers each with design capacities as set out below.

Operation

The Aqua-nova treatment plant is a two tank system.

Wastewater flows into the first tank (Primary Tank). This tank acts as a septic tank removing most solids and fats/oils. Solids retained in this tank are digested anaerobically.

Water from this tank flows to a second tank. This tank is aerated and fitted with submerged media. Aerobic bacteria grow on the media to biodegrade the remaining contaminants in the wastewater. Bacteria occasionally slough off the media and become suspended in the water.

Aeration is continuous.

Water then flows to a clarifier where the solids are allowed to settle. These solids are pumped back to the start of the treatment plant.

Clarified wastewater is chlorinated

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Queensland
Government

Configuration

The Aqua-Nova AWTS is assembled in the following configurations:

Design capacities	80100 2 x 3000L	80110 2 x 3000L	80114 2 x 3000L
primary sedimentation	3000L	3000L	3000L
secondary treatment			
• aeration chamber	3000L 1985L	3000L 1985L	3000L 1985L
• sedimentation	430L	430L	430L
• irrigation	393L	393L	393L
emergency storage	1000L	1000L	1000L
operational water level			
• primary	1385mm	1385mm	1385mm
• secondary	1350mm	1350mm	1350mm

- A chlorine disinfection unit is installed on the outlet of the clarifying chamber.
- Air is supplied to the contact aeration chamber by a Nitto LA80 air blower or equivalent, producing an airflow of a nominal 100 litres/minute at 1.3 m water depth.
- A Davey model D-25A submersible irrigation pump or equivalent is installed in the irrigation chamber for standard above ground irrigation. Type of pump may vary if subsurface irrigation is employed or the disposal area is significantly above the location of the sewage treatment plant.
- Label will be located on the Control Box of the system and have the following information provided
 - System Name
 - Model No.
 - Approval Number
 - Design Hydraulic Capacity
 - Date of Manufacture
 - Top Load Limitations
 - Weight of Tank
 - Lifting/Transport Instructions
 - The name and telephone number of an appropriate service representative to be contacted in the event that a problem with the plant occurs.
 - The website from which the documentation can be downloaded during the design life

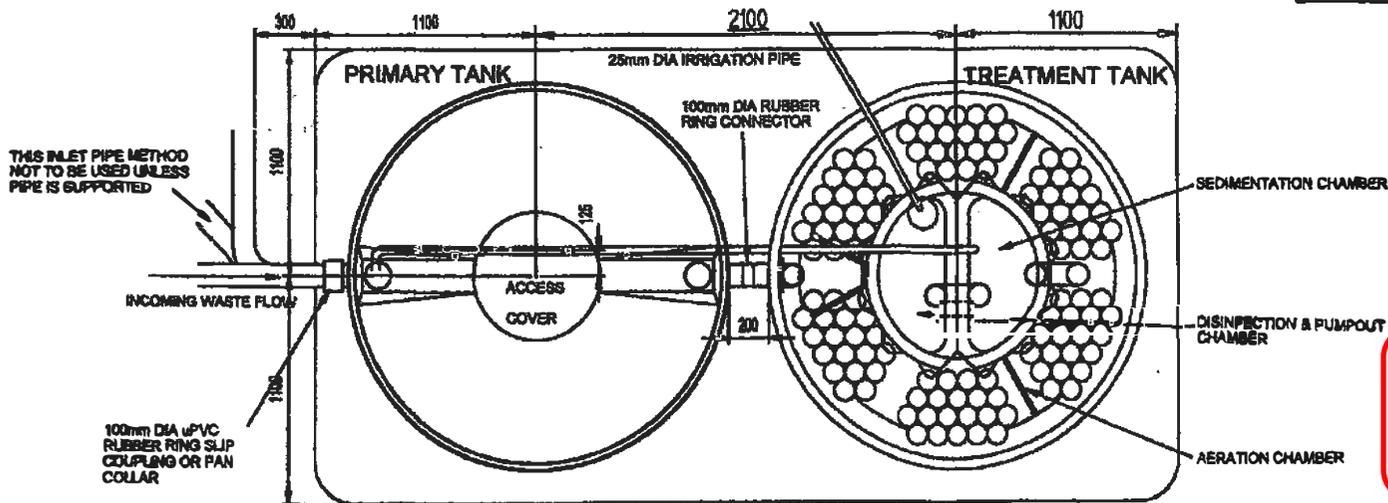
Treatment Plant Approval

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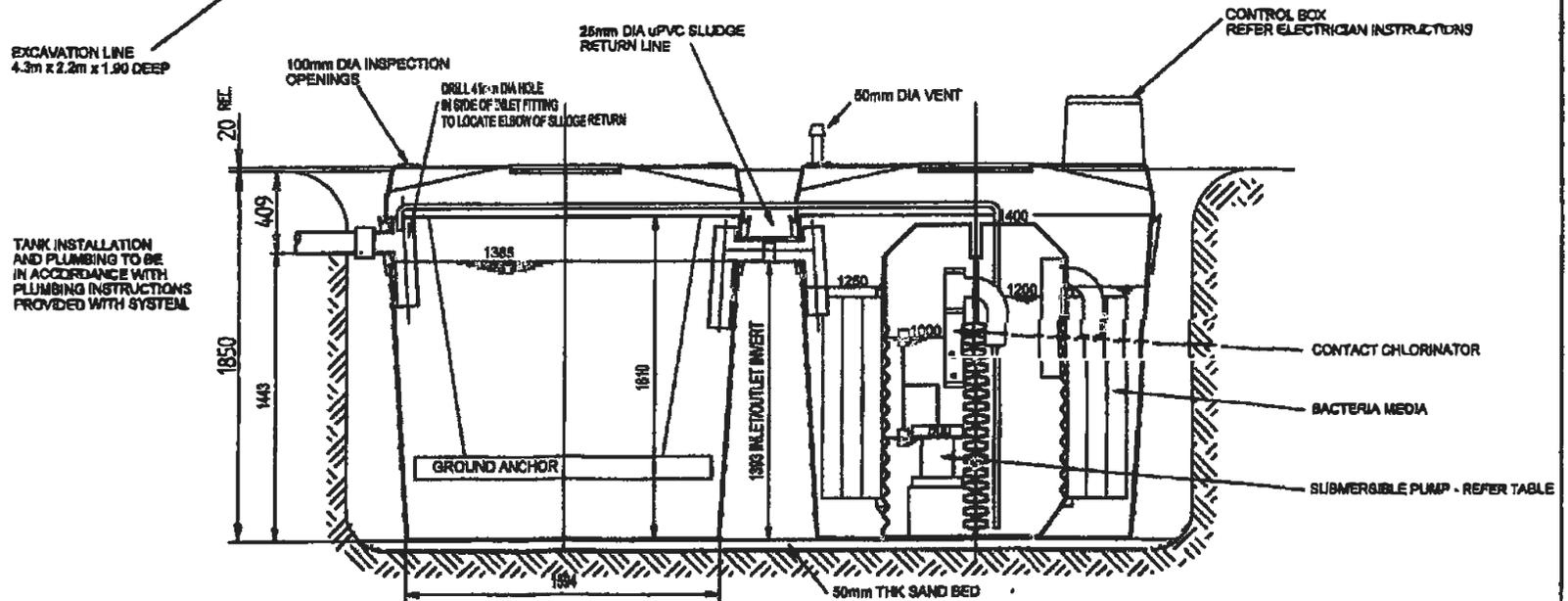




EFFLUENT APPLICATION/IRRIGATION SYSTEM TO BE AS PER INSTRUCTIONS OR DESIGN PROVIDED WITH EACH INDIVIDUAL SYSTEM.

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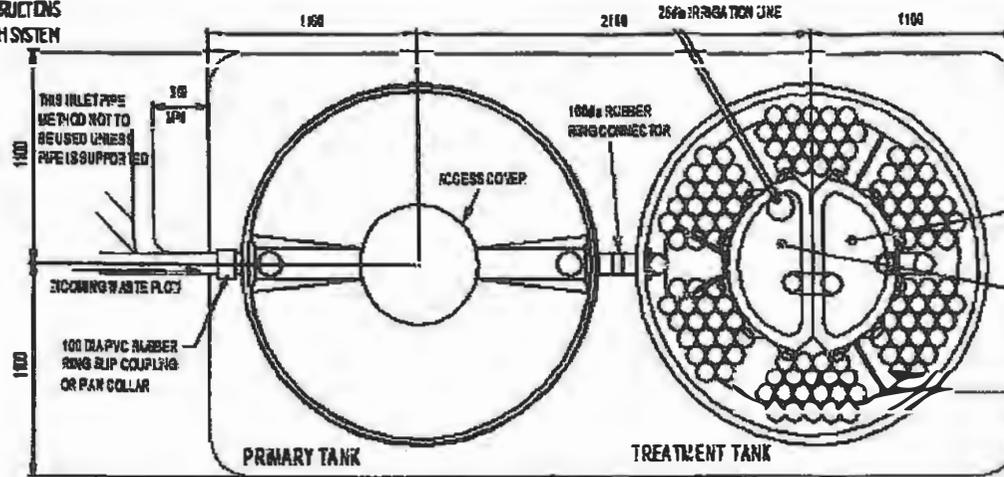
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PRODUCT CODE No.	DETAILS / DESCRIPTION
80100	Davey 25 Pump fitted
80100C	Claytons Blue Diver 30 Pump fitted
80100D	Davey 42 Pump fitted
80111	No irrigation pump fitted
80101	Aeration only

ISSN	DATE	APPROVED FOR PRINTING	AUTHOR	PROJ	SCALE	PROD. No.
B.3	24-2-99				1:25	Refer Table
TITLE AQUANOVA - 80100 - AWTS SYSTEM 2 x 3000 lt POLYMER TANK SYSTEM			EVERHARD INDUSTRIES PTY LTD 4/05 NEWHAM RD, QUEENSLAND, AUST. 4109 PH: +61 7 3257 6444 FAX: +61 7 3258 2111		M - 2544 REVISION 11 DATE 6/5/10	

TANK INSTALLATION AND PIPING TO BE IN ACCORDANCE WITH PLUMBER'S INSTRUCTIONS PROVIDED WITH SYSTEM

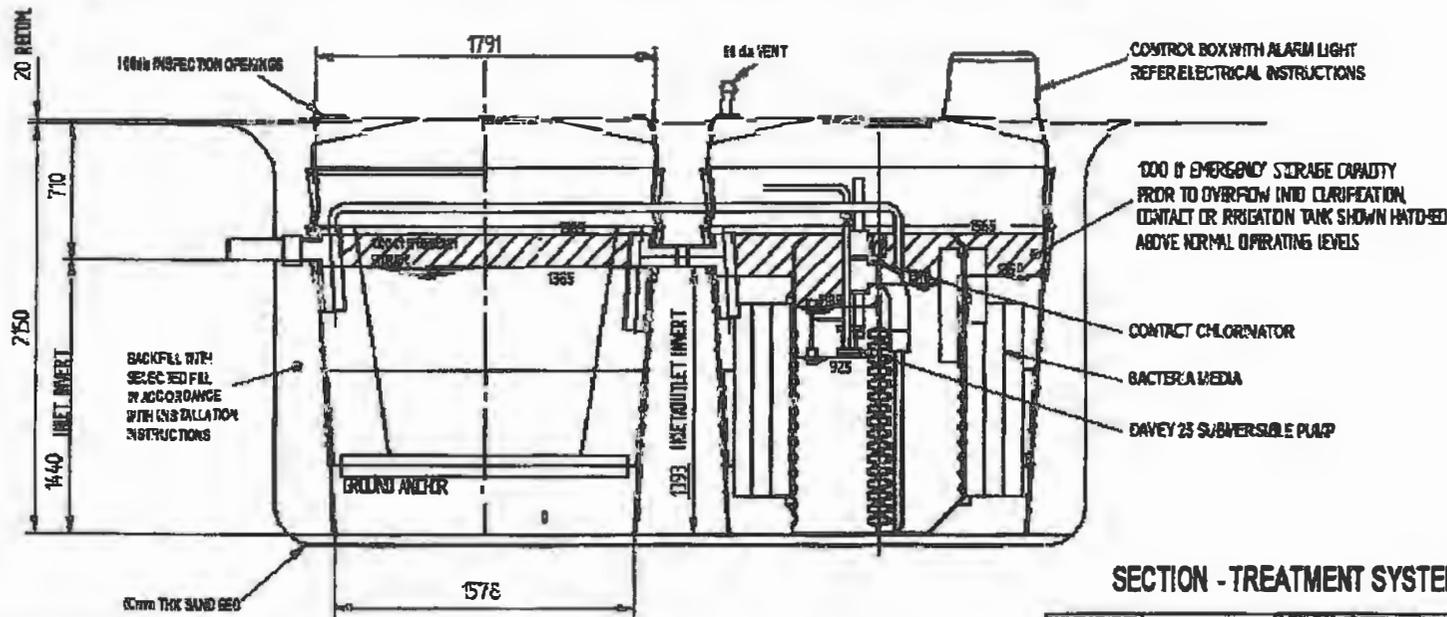


PLAN VIEW - TREATMENT SYSTEM

Treatment Plant Approval
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- SEDIMENTATION CHAMBER
- DISINFECTION & PUMP/OUT CHAMBER
EFFLUENT APPLICATION/IRRIGATION SYSTEM TO BE AS PER INSTRUCTIONS OR DESIGN PROVIDED WITH EACH INDIVIDUAL SYSTEM
- AERATION CHAMBER
- EXCAVATION LINE
4.3m x 2.2m x 2.2m DEEP

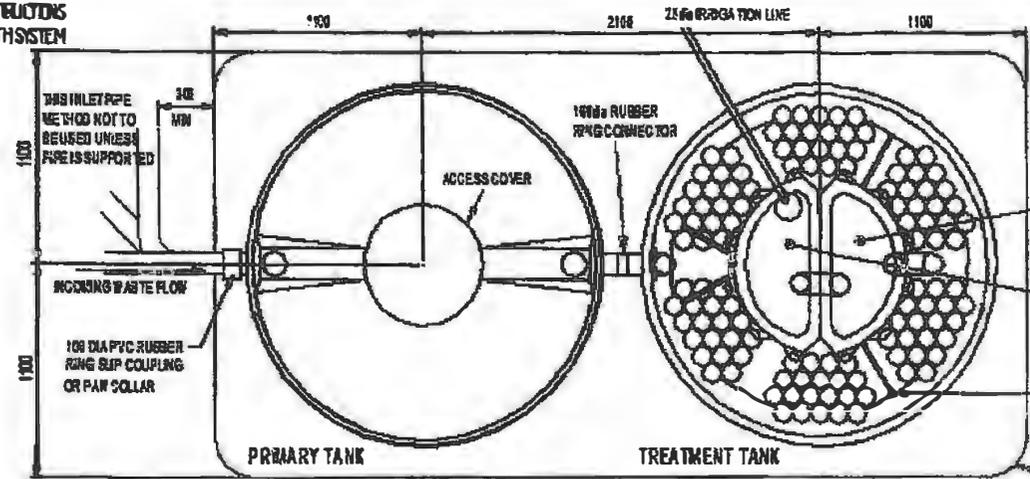


SECTION - TREATMENT SYSTEM

PRODUCT CODE No	DETAILS / DESCRIPTION
8010	Davey 25 Pump fitted
8010C	Claytons Blue Giver 30 Pump fitted
80150	Davey 42 Pump fitted

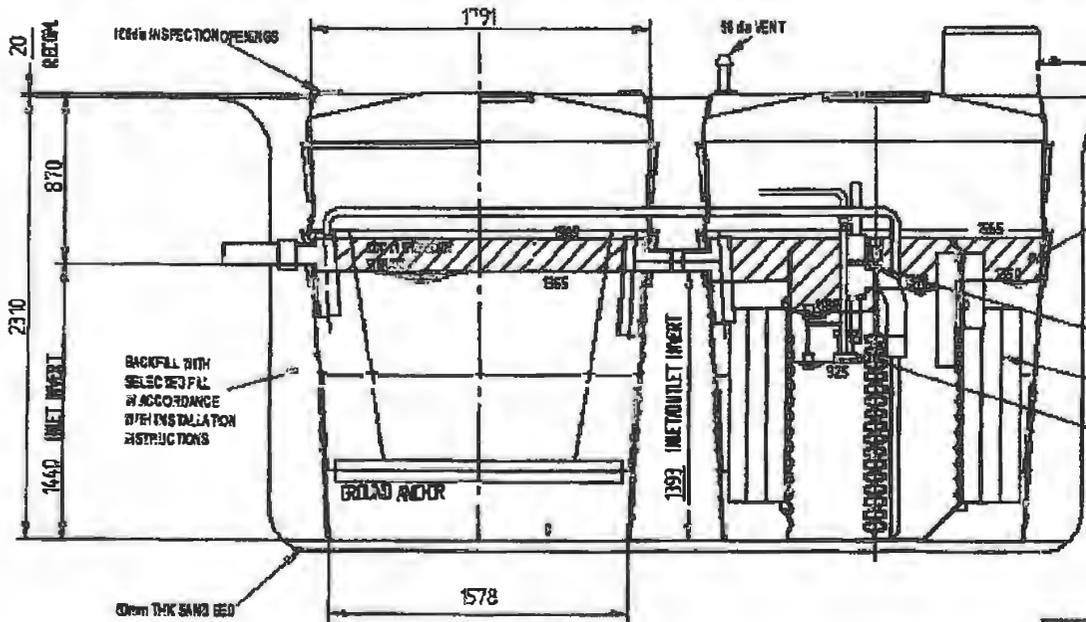
APPROVEMENT		DRAWN SECTION UPDATED WITH COLLECTION		DATE	
REV	23/6/2012	DATE OF INQUIRY	2/7/2015	SCALE	1:25
THE AQUANOM - 8010 - POLYMER - TANK SYSTEM WITH RISERS			EVERHARD INDUSTRIES PTY LTD		DATE OF ISSUE
			M - 909		DATE

TANK INSTALLATION AND PIPING TO BE IN ACCORDANCE WITH PLUMBERS INSTRUCTIONS PROVIDED WITH SYSTEM



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SECTION - TREATMENT SYSTEM

PRODUCT CODE No.	DETAILS / DESCRIPTION
801%K	Davey 25 Pump fitted
801%L	Claytons Blue Over 30 Pump fitted
801%D	Davey 42 Pump fitted

APPENDIX 3		CLARIFIER SECTION UNLINED WITH COLLECTION		BLD		30/1/2013	
BLD	DATE	DATE OF PUMPING	PROJECT	NO.	SCALE	NO. OF SHEETS	NO. OF SHEETS
BLD	29/10/2012	2/7/2013			1:25	6	6/11/13
TITLE: RELANDWA - 801%K - POLYMER TANK SYSTEM 2 x 3000L TANKS WITH 6300L NOMINAL RIGERS			EVERHARD INDUSTRIES PTY LTD		SHEET NO. 1 OF 6 DATE: 1/10/13		
DRAWING NO. M - 55%6				SHEET NO. 3		DATE 01/1/13	