Queensland Government

CHIEF EXECUTIVE APPROVAL 04/2012

Plumbing and Drainage Act 2002, part 5.

Approval

1. The **NovaClear AWTS** ("the system") described in the Specifications and Drawings in the attached Schedule and manufactured by **WaterGurus Australia** (ABN 29 128 628 722) ("the manufacturer") has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code) dated 1 April 2011.

2. Approval is granted for the advanced secondary quality grey water treatment system, subject to compliance by the manufacturer with the requirements of the *Plumbing and Drainage Act 2002*, part 5 and the conditions of approval detailed below.

3. This approval, the conditions of approval and the Schedule comprise the entire Chief Executive 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

1. The manufacture, installation, operation, service and maintenance of the systems must be inconformity with the conditions of this Chief Executive Approval.
2. The advanced secondary quality water 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 2 250 litres; and
   (b) a maximum organic loading of 1365 grams BOD_5.
3. The system must continue to meet the requirements of an advanced secondary quality grey water treatment system, producing the following effluent quality —

   (a) 90% of the samples taken must have a BOD_5 less than or equal to 10 g/m³ with no sample greater than 20 g/m³.

   (b) 90% of the samples taken must have total suspended solids less than or equal to 10 g/m3 with no sample greater than 20 g/m³.

   (c) 90% of the samples taken must have a thermotolerant coliform count not exceeding 10 organisms per 100 mL with no sample exceeding 200 organisms per 100 mL.

   (d) The total chlorine concentration must be greater than or equal to 0.5 g/m³ and less than 2.0 g/m3 in four out of five samples taken; and

4. Each system must be serviced in accordance with the details supplied in the owner's service and maintenance manuals.

5. Each system must be supplied with —

   (a) a copy of this Chief Executive 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.

6. This approval does not extend, apply to, or include the land application system used in conjunction with an approved system installed on premises.

7. The Chief Executive may, by written notice, cancel this approval if the manufacturer 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.

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

9. This approval expires on ..12.. April 2017 unless cancelled earlier in accordance with paragraph 7 above.

SCHEDULE

Attachment 1: **Specifications**

Attachment 2: **Drawings**

Glen Brumby

Executive Director
Building Codes Queensland

Date approved: 12 April 2012

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Chief Executive Approval
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Delegate Signature:
Building Codes Qld

EQUIPMENT SPECIFICATIONS

PRIMARY CHAMBER	
Number of tanks	1
Tank Capacity	4550Litres
Overall Tank Height	2300mm
Tank Diameter	2000mm
Tank Construction	Heavy Duty Polyethylene
Tank installation	Below Ground
MBR CHAMBER	
Tank Capacity	600 Liters
Overall Tank Height	2200mm
Tank Diameter	600mm
Tank Construction	Heavy Duty Polyethylene
Tank installation	Below Ground
TREATED EFFLUENT CHAMBER	
Tank Capacity	600 Liters
Overall Tank Height	2200mm
Tank Diameter	600mm
Tank Construction	Heavy Duty Polyethylene
Tank installation	Below Ground
AERATION EQUIPMENT – PRIMARYAND MBR CHAMBERS	
Number of Air Blowers	1
Air Blower Type	Diaphragm
Number of Air Diffusers	2
Air Diffuser Type	Fine Bubble – Membrane
MEMBRANE UNITS	
Membrane Type	Submerged Flat Sheet Micro filter
Number of Membranes plates	7
Max. Flow rate / MBR	2.8KL/d
Membrane Material	Polyethersulfone
Dimensions	490mm (W) x1200mm (H) x16mm
Pore size	0.2 µm average
Initial Flux (LMD) by pure water	410
Suction pressure	0.6kgf/cm2~0

Design Specification

Application:	Separated Sludge by submerged membrane into activated sludge tank
Operating Type:	Suction Type
Demand of Air Diffusion:	10~12 ℓ/min per module
Differential Pressure:	It should be under 25cmHg (However, it depends on the activated micro-organism)
Cleaning Chemical:	Sodium Hypochlorite (NaOCl : 0.2%~0.5%)
Temperature Range:	5~45 °C
pH :	3~13

CARLYLE TRANSFER SYSTEM (CTS)

Number of Pumps	1
Type of Pump	Air pump
Pump output	Varies with loading

SUCTION PUMP

Number of Pumps	1
Type of Pump	Diaphragm pump
Pump Output	2 liters/min

EFFLUENT PUMP

Number of Pumps	1
Type of Pump	Submersible
Pump Output	40 liters/Min @ 14M head

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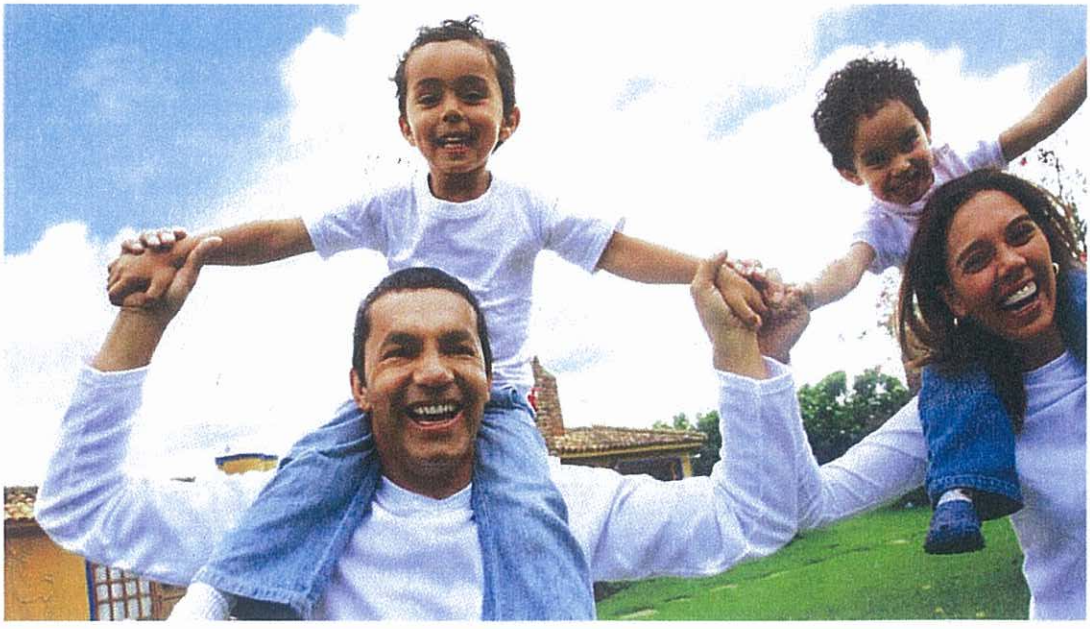

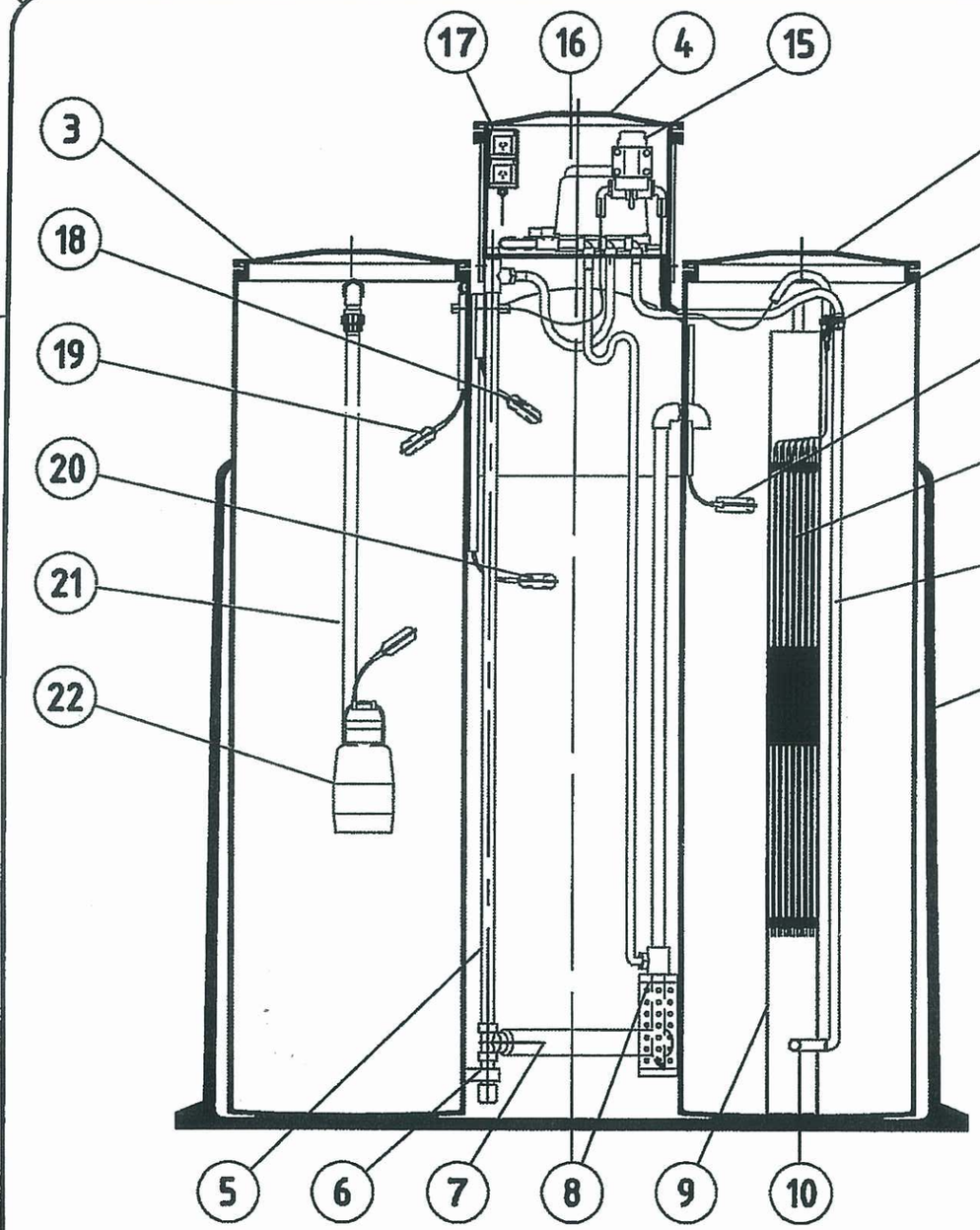

ITEM	DESCRIPTION
1	PRIMARY CHAMBER
2	MBR CHAMBER
3	EFFLUENT CHAMBER
4	MOTOR BOX
5	DIFFUSER PIPE
6	DIFFUSER BRACKET
7	PRIMARY AIR DIFFUSER
8	AIR LIFT PUMP
9	MBR CASSETTE
10	MBR AIR DIFFUSER
11	DIFFUSER PIPE
12	MEMBRANES
13	WORKING LEVEL FLOAT SWITCH
14	SUCTION MANIFOLD
15	SUCTION PUMP
16	AIR BLOWER
17	CONTROLLER
18	PRIM. HIGH LEVEL FLOAT SWITCH
19	HIGH LEVEL FLOAT SWITCH
20	TRANSFER FLOAT
21	DISCHARGE LINE
22	EFF. PUMP WITH FLOAT
23	
24	EFF TRANSFER LINE
25	PRESSURE SWITCH
26	SOLENOID VALVE
27	RESTRICTOR
28	
29	TRANSFER LINE
30	AIR LINE PRIM. DIFFUSER
31	AIR LINE MBR DIFFUSER
32	EFF TRANSFER LINE
34	
35	PIVOT BOLTS

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Amendment No: Amendment 1 for 06/2008
Date of Issue: 2/6/09
Delegate Signature:
Building Codes Qld

NOVACLEAR GENERAL ASSEMBLY

NOVACLEAR QUEENSLAND

NOVACLEAR | GA-F-2-101-A | 01

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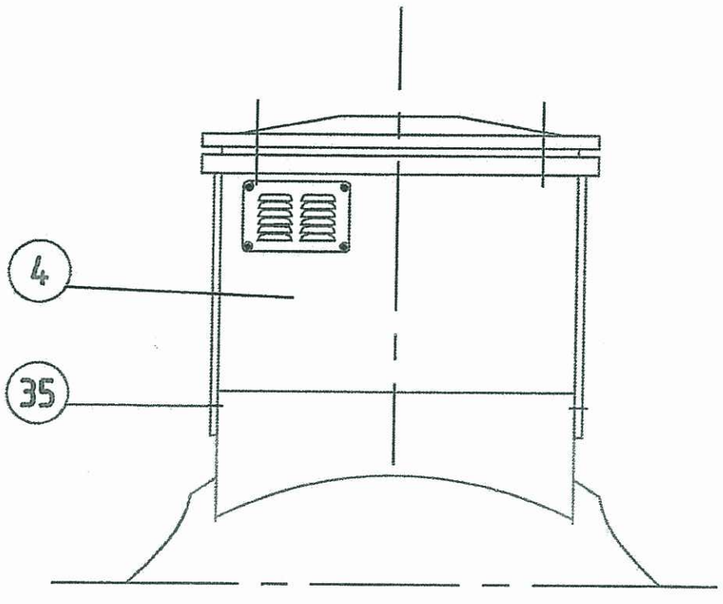

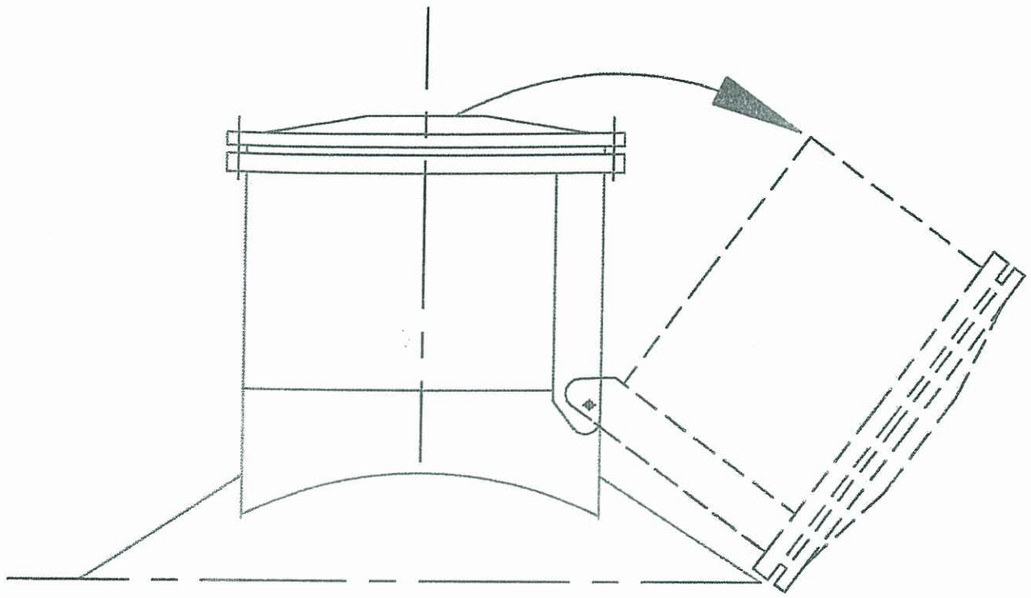

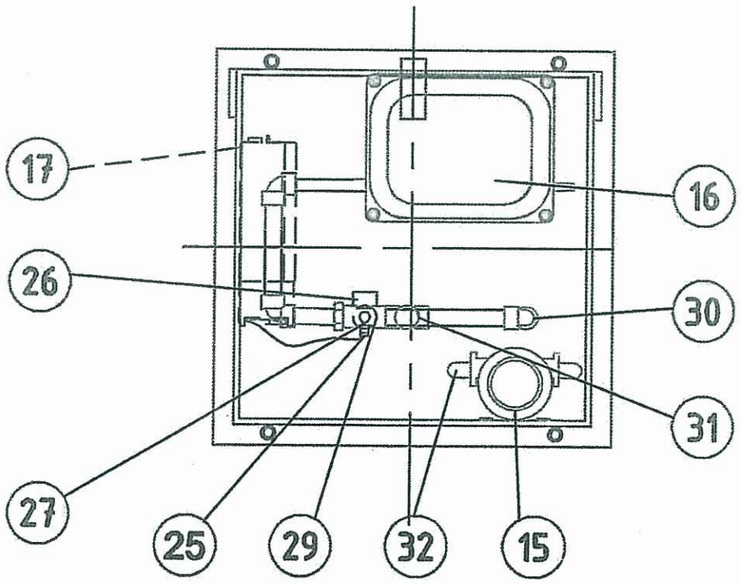

ALL FLEXIBLE HOSES INSTALLED
TO ALLOW MOTOR BOX TO PIVOT

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