



# Works Approval

## *Environmental Protection Act 1986, Part V*

**Works Approval Holder:** Water Corporation

**Works Approval Number:** W5647/2014/1

**Registered office:** Water Corporation  
 Level 3  
 629 Leederville Street  
 LEEDERVILLE WA 6007

**Premises address:** Bruce Rock Septic Tank Effluent Disposal (STED) Scheme  
 Bruce Rock – Narembeen Road  
 BRUCE ROCK WA 6418  
 Being Part of Lot 301 on Plan 33142 as depicted in Schedule 1.

**Issue date:** Friday, 15 August 2014

**Commencement date:** Monday, 18 August 2014

**Expiry date:** Thursday, 17 August 2017

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
54	Sewage facility: premises – (a) On which sewage is treated (excluding septic tanks); or (b) From which treated sewage is discharged onto land or into waters	100 cubic metres or more per day	100 cubic metres per day

**Conditions**

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 24 December 2015

.....  
 Alan Kietzmann  
 Manager Licensing (Waste Industries)  
 Officer delegated under section 20  
 of the *Environmental Protection Act 1986*



# Works Approval Conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'AS/NZS 5667.10'** means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

**'annual period'** means the inclusive period from 1 July until 30 June;

**'commissioning'** means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation.

**'CEO'** for the purpose of correspondence means;

Chief Executive Officer  
Department Administering the Environmental Protection Act 1986  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'NATA'** means the National Association of Testing Authorities, Australia;

**'NATA accredited'** means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

**'Schedule 1'** means Schedule 1 of this Works Approval unless otherwise stated;

**'spot sample'** means a discrete sample representative at the time and place at which the sample is taken;

**'Works Approval'** means this Works Approval numbered W5647/2014/1 and issued under the Act; and

**'Works Approval Holder'** means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.



1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

**1.2 General conditions**

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

<b>Table 1.2.1: Construction Requirements<sup>1</sup></b>		
<b>Document</b>	<b>Parts</b>	<b>Date of Document</b>
Works Approval Application Form	All	21 March 2014
Water Corporation Bruce Rock Septic Tank Effluent Disposal System – Application for Works Approval	All, including Drawings and Appendices	2 December 2013
Email correspondence with additional information from Water Corporation ( A772409)	All	11 March 2014
Email correspondence from Water Corporation advising reduced plant capacity from the original application (A754104):	All	29 April 2014
Application to amend works approval – Form P4, signed by B.Atkinson	All	22 September 2015

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.2 The Works Approval Holder shall install and maintain permanent markers along the boundary of the Premises so it can be identified on the ground.

1.2.3 The Works Approval Holder shall submit a Commissioning Plan to the CEO eight weeks prior to the commencement of commissioning. The commissioning plan shall include but not limited to:

- (a) the commissioning stages and expected timescales for commissioning;
- (b) expected emissions and discharges during commissioning and the environmental implications of the emissions;
- (c) how emissions and discharges will be managed during commissioning;
- (d) the monitoring that will be undertaken during the commissioning period;
- (e) how accidents or malfunctions will be managed;
- (f) start up and shut down procedures; and
- (g) reporting proposals including accidents, malfunctions and reporting against the commissioning plan;

1.2.4 The Works Approval Holder shall commission the Bruce Rock STED Scheme, for a period not exceeding 3 months when the last maturation pond first fills.

**2 Monitoring**

2.1.1 The Works Approval Holder shall ensure that:

- (a) all treated wastewater sampling is conducted in accordance with AS/NZS 5667.10;
- (b) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured [unless indicated otherwise in relevant table].



2.1.2 The Works Approval Holder shall undertake the monitoring specified in Table 2.1.1 during the commissioning period.

<b>Table 2.1.1: Monitoring of effluent quality</b>				
<b>Monitoring point reference</b>	<b>Parameter</b>	<b>Units</b>	<b>Averaging period</b>	<b>Frequency<sup>1</sup></b>
Maturation pond	pH <sup>1</sup>	pH units	Spot sample	Weekly
	<i>E.coli</i>	cfu/100ml		
	Total Nitrogen	mg/L		
	Total Phosphorous	mg/L		
	5 day Biochemical Oxygen Demand	mg/L		
	Effluent flow rate	kL/day		Continuous

Note 1: In-field non-NATA accredited analysis permitted.

### 3 Information

#### 3.1 Reporting

3.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of the works and prior to commissioning of the same.

3.1.2 The compliance document shall:

- (a) certify that the works were constructed in accordance with the conditions of the works approval;
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.

3.1.3 The Works Approval Holder shall submit a commissioning report for the Bruce Rock STED Scheme to DER within three months of the completion of commissioning.

3.1.4 The Works Approval Holder shall ensure the commissioning report includes;

- (a) a summary of the monitoring results recorded under condition 2.1.2;
- (b) a list of any original monitoring reports used to derive 3.1.4 (a)
- (c) a summary of the environmental performance of the Bruce Rock STED scheme as installed, against the design specification set out in the works approval application;
- (d) a review of performance against the design specification and works approval conditions; and
- (e) where they have not been met, measures proposed to meet the design specification and works approval conditions, together with timescales for implementing the proposed measures.



### 3.2 Notification

3.2.1 The Works Approval Holder shall ensure that the parameters listed in Table 3.2.1 are notified to the CEO at the Contact Address and in accordance with the notification requirements of the table.

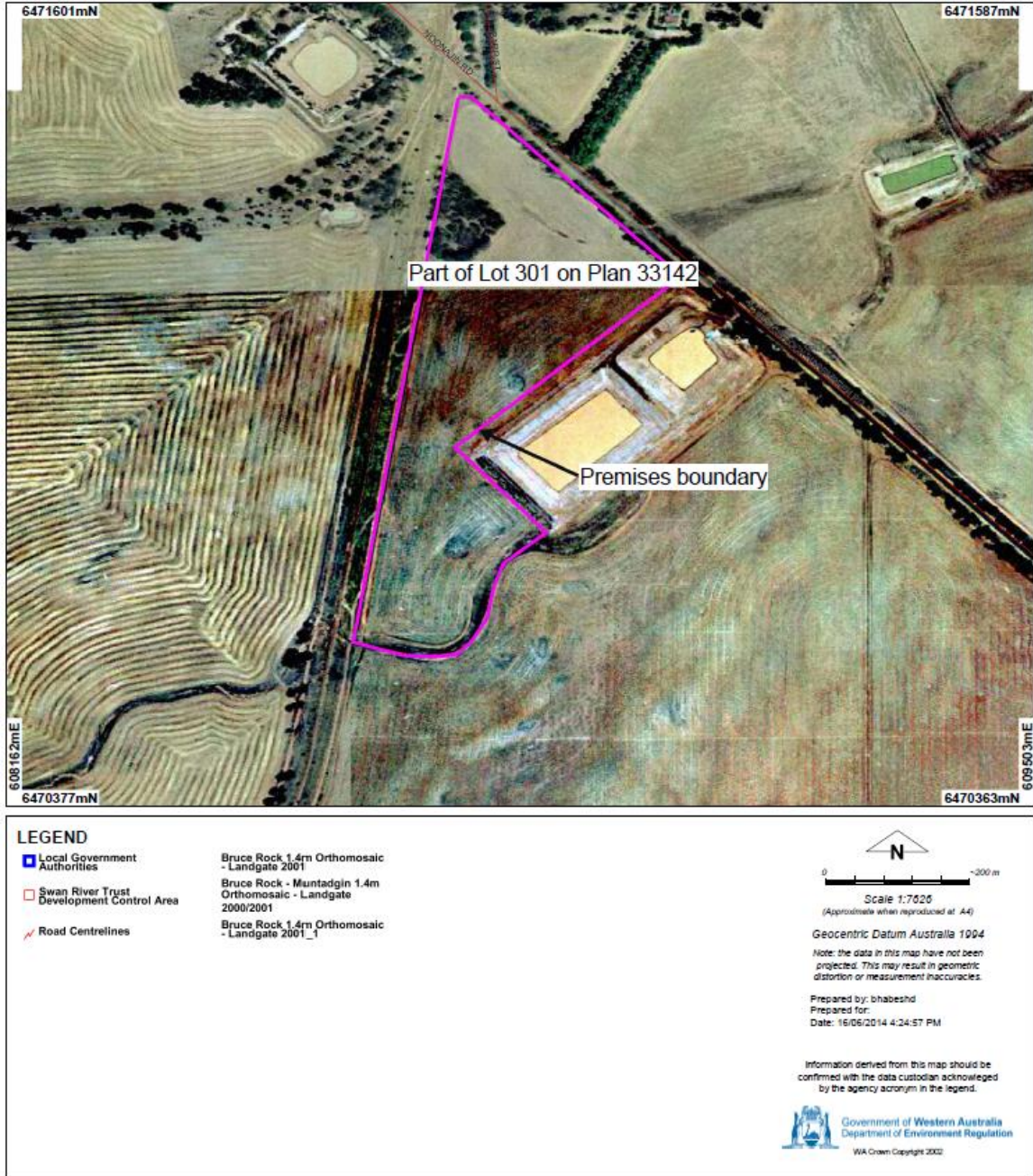
<b>Table 3.2.1: Notification requirements</b>			
<b>Condition or table (if relevant)</b>	<b>Parameter</b>	<b>Notification requirement (in writing)</b>	<b>Format or form</b>
	Commencement of commissioning	7 days prior to start	None specified
	Completion of commissioning	7 days after completion	



# Schedule 1: Maps

## Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.





# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Water Corporation

**Works Approval:** W5647/2014/1

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**Registered office:** Water Corporation  
Level 3  
629 Leederville Street  
LEEDERVILLE WA 6007

**Premises address:** Bruce Rock Septic Tank Effluent Disposal (STED) Scheme  
Bruce Rock – Narembeen Road  
BRUCE ROCK WA 6418  
Being Part of Lot 301 on Plan 33142

**Issue date:** Friday, 15 August 2014

**Commencement date:** Monday, 18 August 2014

**Expiry date:** Thursday, 17 August 2017

### Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a works approval amendment. In reaching this decision all relevant considerations and legal requirements and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Rebecca Griffiths  
Licensing Officer

Decision Document authorised by: Alan Kietzmann  
Manager Licensing (Waste Industries)



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### 1 Purpose of this Document

This decision document explains how the application has been assessed and determined. It provides a record of the decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to the assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input type="checkbox"/>	
	Works Approval amendment <input checked="" type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	54	100 cubic metres per day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		



### 3 Executive summary of proposal and assessment

The Water Corporation proposes to construct a Septic Tank Effluent Disposal (STED) Scheme on Lot 301, Bruce Rock - Narembeen Road, Bruce Rock. The Corporation is in the process of acquiring Lot 301 from a private owner. The owner of the land has provided the Water Corporation access to the location prior to the finalisation of the sale of the land. Bruce Rock is a small agricultural town located 240 km east of Perth, with a population of 550 people. The town is currently reliant on septic tanks and leach drains to treat and dispose of their wastewater. The shallow sandy – clay soils are unsuitable for long term use of leach drains and the town suffers effluent disposal problems during winter.

Bruce Rock STED Scheme will be an alternative to constructing a traditional wastewater treatment plant which would be uneconomical for a town of this size and the existing reliance on leach drains creates uncontrolled overflows and inappropriate disposal of treated effluent within residential areas.

Wastewater produced by domestic households will undergo primary treatment in septic tanks achieving approximately a 40% reduction in Biochemical Oxygen Demand (BOD) before being gravity fed to the proposed STED Scheme located approximately 500 m south of the Bruce Rock town site. The Scheme will have a design capacity of 100 kL per day.

This partial Decision Document relates to the proposed amendment submitted by Water Corporation on 22 September 2015 to amend the pond size for the secondary facultative and 3 maturation ponds; these are being reduced (Table 1). The pond construction techniques will not be altered from the original approval. This partial decision document assesses only the conditions that have been amended or removed, which has required subsequent renumbering. Sections of the decision table that are not relevant to this amendment have been deleted.

The monitoring of septic tank effluent at the Hyden STED Scheme which is a similar system has shown that average BOD values are approximately 63 mg/L. The pond size required to achieve a target BOD of 22.5 mg/L at the Hyden plant is less than initially expected. Consequently, Water Corporation has requested an amendment for the Bruce Rock proposal to now construct the treatment pond sized for 100 kL/day inflow with the following new pond dimensions; these are smaller than originally proposed to maximise efficiency of the treatment plant:

Table 1: Treatment pond dimensions

<b>Dimensions at TWL (rounded values)</b>	<b>Second facultative pond</b>	<b>Maturation pond 1</b>	<b>Maturation ponds 2 &amp; 3</b>
Length (m)	40	27	27
Width (m)	20	11	11
Depth (m)	1.8	1	1
Surface Area (m <sup>2</sup> )	809	284	284

The Premises is located 500 m south of Bruce Rock town site. There are no sensitive receptors within 500 m surrounding the proposed premises. In Bruce Rock, as per application document, the average maximum temperatures range from 34° C in January to 16° C in July/August. The annual rainfall in the town is approximately 330 mm predominantly falling in June and July. The average annual lake evaporation is approximately 1478 mm. The groundwater in that area is saline with around 14,000 to 35,000 mg/L total dissolved solids (TDS). There is no beneficial use of this hypersaline water. The water table is at depths of 11 to 12 m.



There is a small winter creek line that runs along the southern boundary of the premises. The creek does not flow into any major river system and has been identified by the Department of Water hydrography as an area subject to inundation and not a true tributary. The creek is usually dry.

The Bruce Rock STED Scheme ponds have been designed with adequate capacity to hold 1 in 10 year rainfall events for 24 hours averaging time. Overflows resulting from extreme storm events would consist of diluted treated effluent which is unlikely to have any significant impact on the receiving environment.

The main potential emissions associated with the construction proposal includes fugitive dust and noise from earthmoving equipment. Construction will be limited to the daylight hours between the hours of 0700 and 1900 and dust mitigation strategies employed. Odour may be an issue during operation if the site is not appropriately managed. A buffer distance of 500 m from the ponds to the nearest sensitive receptor will reduce the risk of odour impacts.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>General conditions</b>	W2.2.4 –W1.2.5	Condition 1.2.2 has been removed as part of this amendment on the basis that storage of any environmentally hazardous waste materials will be below the <i>Environmental Protection Regulations 1997</i> Schedule 1 threshold and will not contribute to any emissions associated with the operation.	Application supporting documentation  General provisions of the <i>Environmental Protection Act 1986</i>
<b>Premises Operations</b>		This section of the works approval has been removed as there are no conditions.	
<b>Emissions general</b>	N/A	Conditions relating to discharge of treated wastewater and odour emissions will likely be assessed at a licensing stage.  As there are no emissions, the emissions section of works approval has been removed and subsequent works approval conditions have been renumbered.	N/A
<b>Process monitoring</b>	W3	The targets have been removed from monitoring condition 3.1.3. A P4 amendment was submitted by Water Corporation, which requested the level of Nitrogen to be increased. It was identified that the target levels placed on the works approval are not considered enforceable and therefore all targets were removed from the works approval.	<i>Environmental Protection (Unauthorised Discharges) Regulations,</i>



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
			<i>2004.</i>
<b>Improvements</b>		No improvement conditions are required and therefore this section has been removed from the works approval.	
<b>Works Approval Duration</b>		The duration of the Works Approval has not been reassessed as part of this amendment.	



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
4/12/2015	Proponent sent a copy of draft instrument.	The signed waiver form was returned on 17 December 2015 with no further comments received.	Finalisation of Works Approval amendment.



## 6. Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High