



Decision Document

Environmental Protection Act 1986, Part V

Proponent: LTC Management Pty Ltd

Licence: L8849/2014/1

Registered office: Level 2
24 Outram Street
WEST PERTH WA 6005

ACN: 009 155 551

Premises address: Deep Woods Estate
871 Commonage Road
YALLINGUP WA 6282
Being Lot 10 on Diagram 75204 and Part of Lot 21 on Plan 20521.

Issue date: Thursday, 19 March 2015

Commencement date: Monday, 23 March 2015

Expiry date: Sunday, 22 March 2020

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by

Amine Callegari
Licensing Officer

Decision Document authorised by

Jonathan Bailes
Manager Licensing



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's 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.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows,

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences

Works approval conditions 1 1 1-1 1 4, 1 2 1, 1 2 2, 5 1 1 and 5 1 2

Licence conditions 1 1 1-1 1 4, 1 2 1-1 2 4, 5 1 1-5 1 4 and 5 2 1

For such conditions, justification within the Decision Document is not provided

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input checked="" type="checkbox"/>	
	Licence amendment <input type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	25 Alcoholic beverage manufacturing	1400 kL per annual period
Application verified	Date 6/10/2014	
Application fee paid	Date 21/10/2014	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input 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 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"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

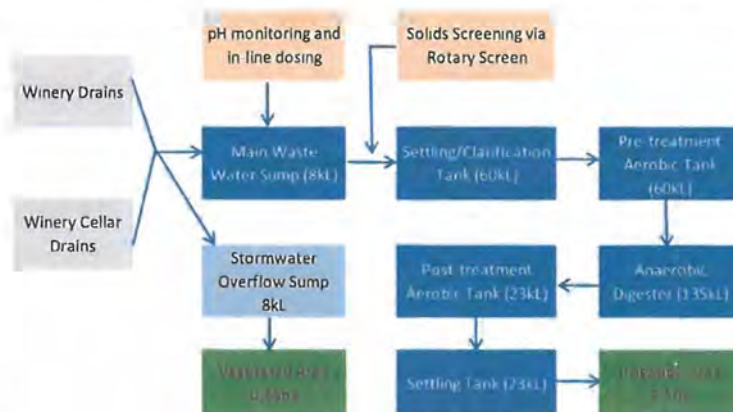


3 Executive summary of proposal and assessment

LTC Management Pty Ltd (LTC Management) operates Deep Woods Estate winery and vineyard. The Estate is situated within the locality of Yallingup Siding in the Shire of Busselton and consists of a vineyard, cellar door, wine processing facility, wastewater treatment system, water storage dam, a homestead and approximately 4 ha of remnant vegetation. The Estate is located within an agricultural land use zone with surrounding land uses including viticulture operations, tourism and rural residential. The nearest sensitive receptors are neighbouring wineries approximately 250m to the west and south east of the winery. There is also a rural residential development approximately 400m north west of the winery.

The winery was originally constructed in 1998. Recent upgrades (under works approval W5707/2014/1) have increased the maximum crush capacity of the winery to 2 000 tonnes/year triggering the requirement for this licence. The main activities on the premises include the production and bottling of wine and the treatment and discharge of winery effluent. Grapes are sourced predominantly from on-site vines as well as other vineyards within the Margaret River wine region.

The main emission from the premises is treated wastewater. The wastewater treatment system (WWTS) comprises a collection sump, solids screening, settlement and clarification tank, aeration tanks, an anaerobic digestion tank and settling/storage tank. The WWTS is capable of treating up to 35 kL/day and is designed to reduce Biological Oxygen Demand (BOD) to 150 mg/L, Nitrogen to 10 mg/L and Phosphorus to 5 mg/L. A schematic of the WWTS is included below.



Treated wastewater is discharged through a cannon spray irrigation system to a 3.5ha paddock and cricket oval on the neighbouring property. A legal agreement exists between the land owners to authorise this activity. Irrigation will be managed to ensure nutrient loading rates are within those specified in Water Quality Protection Note 22 (Department of Water 2008).

Marc, lees, screening solids and other organic wastes produced during the wine making and wastewater treatment process are collected and stored within a designated marc storage area prior to offsite disposal. The marc storage area has been designed and constructed to prevent the release of leachate and stored waste to the environment. Sludge collected in the anaerobic tank will be periodically extracted by a licensed contractor for offsite disposal.

Odour emissions are not expected to be significant. All wastewater treatment occurs within enclosed tanks therefore the main odour source is expected to be the marc storage area. Periodic removal of stored wastes will ensure odour emissions are minimised. Noise has become an emission of significance since the replacement of compressors on the winery refrigeration unit. Noise attenuation requirements have been included in the Licence to address this issue.



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.

DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1 2 5 L1 2 6 L1 3 1 – L1 3 2 L1 3 4	OSC	<p>Operation</p> <p><u>Emission Description</u> <i>Emission</i> Stormwater and winery wastewater with potentially elevated levels of nitrogen, phosphorus, suspended solids, low pH and elevated biological oxygen demand as a result of contact with wine production residues and wastes</p> <p><i>Impact</i> Contamination of surrounding land and surface water systems due to elevated nutrient levels. The closest watercourse is approximately 300m east of the winery and WWTS. Contaminated stormwater and wastewater is not expected to impact on groundwater due to the small scale of this operation and the depth to groundwater being >50m</p> <p><i>Controls</i> Winery operations are undertaken within a concreted hardstand area which drains all wastewater to the WWTS. Stormwater falling outside the operational area is diverted away to prevent it becoming contaminated. Stormwater falling within the operational area is directed to the WWTS for treatment prior to discharge. Clean stormwater is able to be diverted from the WWTS outside of vintage periods to prevent overloading the system. The marc storage area is a concrete bunded area designed and constructed to contain all solid and liquid wastes deposited, prevent stormwater inflow and outflow, and direct collected leachate back to the WWTS clarifier for treatment.</p>	Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> OSC 1.2.5 has been included to ensure appropriate control and management of stormwater is maintained at the Premises such that volumes of contaminated stormwater are minimised and contaminated stormwater is treated as such prior to discharge. OSC 1.3.1 is included in the licence to ensure all wastewaters are directed into the WWTS and are not released to the environment. OSC 1.3.2 is included to specify containment infrastructure requirements for wastewater (and organic wastes) to minimise the risk of release to the environment. OSC 1.3.4 is included in the licence to specify management requirements for the WWTS to ensure it is managed in a manner which reduces the risk of, release to the environment, overloading and damage to the system.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p>NB Treated wastewater irrigation controls appear in condition 1.3.3, however these have been assessed under the 'Emissions to land' section</p> <p>OSC 1.2.6 has been included to ensure the Premises boundary is marked on the ground so that it is readily identifiable as it comprises one whole cadastral block and part of a neighbouring block</p>	



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p><u>Emission Description</u> <i>Emission:</i> Storage and disposal of organic winery production wastes and leachate <i>Impact:</i> Contamination of surrounding land and surface water systems due to elevated nutrient levels in winery production wastes. There is not expected to be an impact on groundwater due to the small scale of this operation and the depth to groundwater being >50m <i>Controls:</i> A designated 12m x 12m concrete bunded marc storage area has been constructed adjacent to the WWTS for storage of organic winery waste prior to offsite disposal by a licensed contractor. The design of the area ensures no stormwater inflow or outflow and containment of all stored waste. A collection sump has been included to collect leachate and pump it back into the WWTS clarifier for treatment.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> OSC 1.3.2 is included to ensure that all organic winery waste including marc, lees and screening solids, are stored in the designated marc storage area and that the storage area meets specified design requirements to prevent release to the environment.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	



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Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Emissions general	L2 1 1	OSC	Numerical limits and targets have been set through OSC 2.5 2 and 2.5 3 of the licence therefore OSC 2.1.1 regarding recording and investigation of exceedances of limits or targets has been included	N/A
Point source emissions to air including monitoring	L2.2 and L3 2	N/A	Operation No significant point source emissions to air are known to occur from the winery. Therefore, no specified conditions relating to point source emissions to air or the monitoring of such emissions are required on the licence.	N/A
Point source emissions to surface water including monitoring	L2.3 and L3 3	N/A	Operation No point source emissions to surface water are known to occur from the winery. Therefore, no specified conditions relating to point source emissions to surface water or the monitoring of such emissions are required on the licence.	Application supporting documentation
Point source emissions to groundwater including monitoring	L2 4 and L3.4	N/A	Operation No point source emissions to groundwater are known to occur from the winery. Therefore, no specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are required on the licence.	Application supporting documentation
Emissions to land including monitoring	L1 3 3 L2 5 1-L2 5.3 L3.5 1	OSC	Operation DER's assessment and decision making are detailed in Appendix A.	Application supporting documentation Water Quality Protection Note No. 22. Irrigation with Nutrient Rich Wastewater (Department of Water July 2008)



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
				<p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p>ANZECC Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</p>
Fugitive emissions	L2 6	N/A	<p>Operation No fugitive dust emissions are known to occur from the winery therefore no licence conditions are required</p>	N/A
Odour	L2 7 1	OSC	<p>Operation <u>Emission Description</u> <i>Emission:</i> Odour emissions from the WWTS, irrigation area and marc storage area due to the breakdown of organics and elevated nutrient levels <i>Impact.</i> Nuisance impacts on neighbouring residences. The closest residence is approximately 320m north-west of the WWTS and there are a number of other rural residences within a 500m radius of the Premises. No complaints relating to odour from the Premises have been received by the DER. <i>Controls:</i> The upgraded WWTS has been designed to reduce BOD and nutrient levels more than the previous WWTS. It is an enclosed system comprising sealed tanks with breather valves. Marc and other organic winery and screening wastes produced during vintage are collected and stored in a designated area adjacent to the WWTS. The collected waste is routinely removed by waste contractors for offsite disposal. Sludge from the WWTS remains in situ within the</p>	Application supporting documentation



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			<p>anaerobic digester until it is collected by a controlled waste carrier for offsite disposal</p> <p><u>Risk Assessment</u> <i>Consequence</i> Minor <i>Likelihood</i>: Unlikely <i>Risk Rating</i>: Moderate</p> <p><u>Regulatory Controls</u> OSC 2 7.1 is included in the licence to ensure the Licensee manages odour emissions so they do not impact on nearby receptors. Limits and targets for nutrients and BOD in OSC 2.5.2 and 2 5 3 will also assist in ensuring odour emissions are minimised from the WWTS and irrigation</p> <p><u>Residual Risk</u> <i>Consequence</i> Insignificant <i>Likelihood</i>: Unlikely <i>Risk Rating</i> Low</p>	
Noise	N/A	N/A	<p>Operation</p> <p><u>Emission Description</u> <i>Emission</i>: Noise emissions from operation of the winery refrigeration unit and WWTS. A noise assessment identified the winery refrigeration unit as the dominant noise source for the Premises. Noise emissions from the WWTS are low in comparison to the overall noise emissions from the Premises. <i>Impact</i>. Nuisance impacts on neighbouring residences. The closest is 320m north-west of the WWTS and there are a number of other rural residences within a 500m radius of the Premises. The DER has received two complaints since compressors on the winery refrigeration unit were replaced <i>Controls</i>: The winery refrigeration unit is the dominant noise source for the Premises. Foam baffle box covers have been installed over the compressors to reduce noise emissions.</p>	<p>Application supporting documentation – Marshall Day Acoustics Noise Survey Initial Report February 2015</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p>



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			<p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Likely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> A noise consultant was engaged to undertake a noise survey which found that measured noise emissions exceed the assigned night time levels at the closest noise sensitive premises ($L_{AS\ max}$ of 42dB). In order to reduce noise emissions to within the assigned levels a purpose built acoustic enclosure for the winery refrigeration unit is required. OSC 4.1.1 IR2 and IR3 are included on the licence to ensure the required infrastructure is constructed in a timely fashion, and the infrastructure is verifiably capable of reducing noise emissions to the assigned levels</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	
Monitoring general	L3.1.1 – L3.1.5	OSC	<p>Operation Monitoring of emissions to land is included in the licence so general monitoring conditions relating to collection, preservation and testing of samples (OSC 3.1.1), monitoring intervals (OSC 3.1.2), recording of data (OSC 3.1.3), and monitoring equipment calibration requirements (OSC 3.1.4-3.1.5) have been included.</p>	N/A
Monitoring of inputs and outputs	L3.6.1	OSC	<p>Operation OSC 3.6.1 has been included due to there being a relationship between tonnes of grapes crushed, the volume of alcoholic beverage produced and the volume of wastewater generated. Monitoring of inputs and outputs will allow a comparison with the approved premises production capacity.</p>	N/A



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Process monitoring	L3.7	N/A	Operation There are no process monitoring requirements at the Premises that require licence conditions.	N/A
Ambient quality monitoring	L3.8	N/A	Operation There are no known emissions from the premises requiring ambient quality monitoring. Due to the relatively small scale of the premises and irrigation area, and the depth to groundwater, ambient groundwater quality monitoring is not required. The targets and limits set for the quality of irrigation water are specified to ensure minimal impact on soil therefore ambient soil monitoring is not required.	N/A
Meteorological monitoring	L3.9	N/A	Operation There are no known emissions from the premises that require meteorological monitoring conditions.	N/A
Improvements	L4.1.1 – L4.1.2	OSC	Operation The Licensee has not yet developed a nutrient irrigation management plan (NIMP) which was a commitment made in the works approval application for the upgraded WWTS. OSC 4.1.1 IR1 has been included to require a NIMP to be developed and implemented for the Premises. Inclusion of IR2 on the licence is discussed in the 'Noise' section.	Application supporting documentation
Information	L5.2.2-5.2.3 L5.3.1	OSC	Operation Annual reporting requirements have been specified in the licence in SC 5.2.1. OSC 5.2.2 has also been included to ensure the annual report contains relevant production data and trend analysis to enable the performance of the WWTS to be assessed over time. As the licence contains targets OSC 5.2.3 has been included to ensure DER is informed of target exceedances. OSC 5.3.1 has been included on the licence to ensure the DER is made aware of any breaches of limits or malfunctions of the wastewater treatment system or any other pollution control equipment within a timely manner.	N/A



DECISION TABLE				
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Licence Duration	N/A	N/A	It is recommended that the licence be issued for a period of 5 years due to the generally low risk nature of the operation.	N/A



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
03/11/2014	Application advertised in West Australian (or other relevant newspaper)	None	N/A
30/10/2014	Application referred to the City of Busselton	Confirmation provided that Deep Woods Estate has received application planning, building and health approvals.	N/A
16/03/2015	Proponent sent a copy of draft instrument	Timeframe for verification noise assessment following completion of construction of the acoustic enclosure may not be achievable	IR2 split into two conditions, one condition requiring completion of acoustic enclosure construction by a specified date and the second requiring submission of a construction report and noise assessment at a later date.



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



Appendix A

Emissions to land including monitoring

The Licensee proposes to irrigate up to 4000 kL of treated wastewater per annum over a 3.5 ha grassed cricket oval and paddock located on the neighbouring property. The Licensee has an agreement with the neighbouring landholder authorising this activity for the duration of the licence. The WWTS is expected to reduce nutrient levels to 10 mg/L nitrogen, 5 mg/L phosphorous, 150 mg/L biological oxygen demand (BOD) and a pH range of 6.5-8. Based on the expected water quality and irrigation rate the predicted loading rates will be 11.4 kg/ha/yr nitrogen, 5.7 kg/ha/yr phosphorous and 0.5 kg/ha/day BOD. Predicted loading rates are well within the nutrient application criteria in Department of Water, Water Quality Protection Note 22: Irrigation with nutrient rich wastewater (WQPN 22 for a Risk Category C operation. A water balance conducted for the irrigation area indicates that a 3.5 ha area of pasture in the Margaret River region requires up to 8610 kL of water per annum which exceeds the maximum predicted volume of 4000 kL of treated wastewater per annum.

Emission Risk Assessment – Operations

Emission Description

Emission: Irrigation of treated winery wastewater.

Impact: Contamination of surrounding land and surface water with excess nutrients (primarily Nitrogen and Phosphorus). There is also potential for odour, ponding, water logging and erosion to occur within and beyond the irrigation area if appropriate controls are not implemented. The depth to groundwater is >50m therefore there is not expected to be any impact on groundwater due to the relatively small scale of the operation.

Controls: Wastewater is treated through the WWTS prior to irrigation. Irrigation will predominantly occur in summer. Application rates will not exceed 24 mm/hr which is the maximum infiltration rate for the soil type in the irrigation area (loamy clays with gravelly loam at depth). Treated wastewater will not be irrigated during rainfall events, onto flooded areas or if soil moisture conditions are likely to cause runoff and ponding.

Risk Assessment

Consequence: Minor

Likelihood: Possible,

Risk Rating: Moderate

Regulatory Controls

OSC 2.5.1 has been included on the licence to define the authorised irrigation area. DER has imposed emission limits and targets on the quality of treated wastewater being irrigated through OSCs 2.5.2 and 2.5.3. The limits specified have been based on the maximum sustainable nutrient load defined in WQPN 22 for the soil type specific to the irrigation area (Risk Category C). pH limits have been selected to ensure irrigation water is within allowable pH levels in accordance with the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Treated wastewater quality targets have been determined taking into account the capability of the WWTS, ANZECC Guidelines for Primary Industry (2000) and concentrations which may result in exceedances of loading limits if continued for a prolonged period. Monitoring requirements have been imposed through OSC 3.5.1 to demonstrate compliance with the emission limits and allow comparison with the emission targets. Additional salinity parameters have been included as this can impact on performance of the WWTS or indicate there is a problem in the treatment cycle. Monitoring of flows through the WWTS is also included to ensure the system is not being overloaded and to enable irrigation loading rates can be calculated.



The licensee has committed to developing a Nutrient Irrigation Management Plan in their licence application to ensure irrigation is undertaken

OSC 1 3 3 has been included to specify irrigation operational requirements. The operational requirements specified are designed to minimise the likelihood of potential impacts occurring. In addition to this, OSC 4 1 1 IR1 has been included requiring the submission of a Nutrient Irrigation Management Plan (NIMP). The licensee has committed to developing a NIMP in the works approval application for the upgraded WWTS. A documented NIMP will ensure site specific factors are considered when planning and undertaking irrigation to ensure impacts on the irrigation area and surrounding areas are minimised.

Residual Risk

Consequence Insignificant

Likelihood Unlikely

Risk Rating Low

