

APPENDIX 3 – PROJECT ENVIRONMENTAL RISK ASSESSMENT

Issue	Aspect	Impact	Risk Assessment Ranking			Environmental Impact Statement Scope
			C	L	R	
Waste & Contamination Management	Receival, sorting consolidation and distribution of organics , drill muds/fluids, C&D waste and bulk landscape supplies	Land and water contamination	High	2	8, Mod	<p>A desktop waste assessment has been undertaken as part of the EIS. The assessment established the waste streams that would be accepted at the site including maximum throughputs and sizes for stockpiles. The assessment also established the waste processing operations and the proposed technology and control measures to be implemented. Details of how waste would be stored, handled (including inappropriate waste) and transported to and from site were also established .</p> <p>Mitigation and management measures have been proposed to reduce the impacts associated with waste management on site and ensure compliance with regulatory and statutory requirements and ensure consistency with the aims, objectives and guidance in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2021</i>.</p>
	Generation of sewage	Water contamination	Neg	2	2, Low	
	Generation of general waste	Land contamination	Mod	2	6, Mod	
Hazardous materials	Storage and handling	Soil and water contamination	Mod	2	6, Mod	A relevant level of hazard assessment has been undertaken for the Project in accordance with SEPP 33. The assessment also establishes the relevant handling, storage and transport requirements for hazardous materials at the site.
Traffic and Transport	Vehicle movements from employees, and in-bound and out-bound deliveries during operations	Increased traffic movements	Mod	4	12, High	<p>A Traffic and Transport Impact Assessment has been undertaken for the Project in accordance with the '<i>Guide to Traffic Generating Developments</i>' (RTA 2002).</p> <p>The Assessment included a review of previous traffic impact assessments undertaken for the surrounding area, assessment of construction and operational traffic types, volumes and movements on site and existing road</p>

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	Construction traffic					networks, and predicted impacts of increased traffic on road safety. Detailed plans of the proposed layout of the internal road network and onsite parking have also been prepared. Mitigation and management measures have been proposed to reduce the traffic related impacts.
Air Quality and Odour	Vehicle movements	Elevated airborne, deposited dust and odour emissions	Minor	4	8, Mod	An Air Quality Impact Assessment has been undertaken for the Project in accordance with the <i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i> (DEC, 2005). The Assessment included confirmation of background levels, determination of site criteria, air quality impacts for the construction and operational phases, calculation of likely greenhouse gas emissions, cumulative impacts and a literature review. The assessment included a discussion on buildings and air handling systems and justification for operational activities external to site buildings. The assessment considered emissions of dust, odours, NOx and other potential gases. Mitigation and management measures have been developed to reduce the impacts on air quality.
	Receival, sorting consolidation and distribution of organics , drill muds/fluids, C&D waste and bulk landscape supplies		Minor	4	8, Mod	
Greenhouse gas	Combustion of fuels during construction and operations	Greenhouse gas emissions	Minor	1	2, Low	The Air Quality Impact Assessment included an assessment of greenhouse gas Scope 1, 2 and 3 emissions in accordance with the Australian Greenhouse Office's (AGO) <i>Factors and Methods Workbook</i> (AGO, 2006) as part of the Air Quality and Greenhouse Gas Impact Assessment described above. Mitigation and management measures have been developed to reduce the impacts on air quality.
	Electricity Use during construction and operations					
Noise and vibration	Vehicle movements	Excessive noise and vibration generation at	Minor	4	8, Mod	A Noise and Vibration Impact Assessment has been undertaken for the Project in accordance with relevant NSW regulatory policy and guidelines, including the <i>Industrial Noise Policy 2000, Interim Construction Noise</i>

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	Receival, sorting consolidation and distribution of organics , drill muds/fluids, C&D waste and bulk landscape supplies	sensitive receivers	Mod	2	6, Mod	<p><i>Guidelines and Road Noise Policy.</i></p> <p>The Assessment determined likely criteria for the Project and included an assessment of construction and operational noise and vibration impacts, and cumulative noise impacts with other approved industry in the vicinity. Mitigation and management measures have been developed to reduce the noise and vibration impacts of the project.</p>
Soil and Water	Disturbance of soils during construction	Sediment movement resulting in contamination of nearby surface water and groundwater	Mod	2	6, Mod	<p>Surface water and groundwater assessments have been undertaken for the Project. The Assessments included a review of existing surface and ground water assessment information, the identification of surface and groundwater resources, assessment of existing surface and groundwater hydrology, and an assessment of potential surface water and groundwater impacts on and offsite. The assessment also included the development of a site water balance to assist with the design of the wastewater containment system and the design of a groundwater monitoring program.</p> <p>Contamination assessments have been undertaken for the Project. The assessments included a review of existing contamination reports, investigations of the site and surrounding area, including soil and groundwater sampling , monitoring and analysis. Test pitting was also undertaken to determine the number of USTs (if any) across the site.</p> <p>Measures have been developed to mitigate and or manage surface and groundwater and soil contamination issues associated with the project.</p>
	Flooding /stormwater and wastewater management	Contamination of nearby surface water and groundwater resulting from surface water runoff from site	Mod	2	6, Mod	
		Flooding on the site and to infrastructure	Mod	2	6, Mod	
Soil and Water	Wastewater Containment System	Contamination of nearby surface water and/or groundwater resulting from flows leaving site	Mod	2	6, Mod	<p>Surface water and groundwater assessments have been undertaken for the Project. The Assessments included a review of existing surface and ground water assessment information, the identification of surface and groundwater resources, assessment of existing surface and groundwater hydrology, and an assessment of potential surface water and groundwater</p>

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						impacts on and offsite. The assessment also included the development of a site water balance to assist with the design of the wastewater containment system and the design of a groundwater monitoring program.
Aboriginal Archaeology and Cultural Heritage	Ground disturbance during construction	Disturbance of Aboriginal artefacts, sites or places of cultural heritage significance	Minor	1	2, Low	<p>An Aboriginal Archaeological and Cultural Heritage Impact Assessment for the Project has been undertaken in accordance with the <i>National Parks & Wildlife Act 1974 Part 6 Approvals Interim Community Consultation Requirements for Applicants (ICCRs)</i> (NPWS 2004) and <i>DECCWs Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>. The Assessment consisted of a desktop review - database and literature search of previously recorded Cultural Heritage information. In addition, field survey assessment has been conducted with members of the local Aboriginal community.</p> <p>Mitigation and management strategies have been developed in consultation with Registered Aboriginal Parties in the event that an Aboriginal artefact is discovered.</p>
Biodiversity	Disturbance of biodiversity during construction and operations	Disturbance to State and Federally listed species, communities or habitat for species	Minor	1	2, Low	<p>An ecological due diligence assessment has been undertaken for the Project in accordance with the relevant Government guidelines including (at least):</p> <ul style="list-style-type: none"> ▪ <i>Threatened Biodiversity Survey and Assessment Guidelines</i> for Development and Activities – Working Draft (DECCW, 2004); and ▪ <i>Threatened Species Assessment Guidelines – the Assessment of Significance</i> (DECC, 2007).
Visual amenity	Visibility of the proposed new infrastructure	Impact to visual amenity of existing environment	Neg	2	2, Low	A visual impact assessment has been undertaken for the Project in accordance with current best practice. The assessment consisted of a desktop review – aerial photography, proposed works, existing reports and planning policy. In addition, a field inspection was undertaken to determine the visibility of the proposed project at a local and regional context.
Socio-	Social	Demands on local	Minor	2	4, Mod	A desktop socio-economic assessment of the Project has been undertaken

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economic		infrastructure and services, impacts to demographics				as part of the overall EIS. The economic benefits of the Project have been considered, in addition to the potential social impacts.
	Economic	Increased employment opportunities for local residents Increasing demands for services within the local area	Minor	2	4, Mod	
Cumulative impacts	Construction and operations	Cumulative impacts on existing receivers	Mod	2	6, Mod	All studies incorporate cumulative impacts assessments with approved industries in the vicinity of the Project, where sufficient information was available.

Risk Assessment Matrix

Likelihood	Consequence					
	Negligible	Minor	Moderate	High	Critical	Catastrophic
6 – Certain	6	12	18	24	30	36
5 – Very Likely	5	10	15	20	25	30
4 – Likely	4	8	12	16	20	24
3 – Unlikely	3	6	9	12	15	18
2 – Possible	2	4	6	8	10	12
1 - Almost Impossible	1	2	3	4	5	6

Risk Scores: 1 - 3 = Low; 4 - 10 = Moderate; 12 - 16 = High; 18 - 24 = Very High; 25 - 36 = Extreme

Likelihood Classification Used for the Risk Framework

Likelihood	Description	Frequency
Certain	Common Occurrence	At least daily
Very Likely	Expected to occur in most circumstances	Once per week
Likely	Probably will occur or has happened in the past	Once per month
Unlikely	Occurs Infrequently	Less than once per year
Possible	Could happen at some time	Less than once per 10 years
Almost Impossible	Not Likely to Occur	Less than 1 per 100 years