

Appendix G

Land Use Conflict Risk Assessment

Appendix H – land Use Conflict Risk Assessment

Risk Evaluation, which considers the probability (P), consequence (C) of the activity and the residual risk rating (RRR). Definitions of probability and consequence are outlined in the Land Use Conflict Risk Assessment Guide' (Department of Trade and Investment, 2011)

Activity	Identified Potential Conflict	Mitigating factors	P	C	RRR
Use of Agricultural Land	<p>Impacts to agricultural land are summarised below:</p> <ul style="list-style-type: none"> Disturbance to mapped biophysical strategic agricultural land (BSAL). Loss of productive agricultural land for the life of the proposal (expected to be approximately 25 years). This loss of agricultural activity would occur within the direct footprint only and only for the duration of operations. Potential changes to insitu soils and soil properties. 	<ul style="list-style-type: none"> The solar farm will cover approximately 375ha within a larger agricultural holding. The remaining agricultural holding will continue to be used for grazing agriculture. The solar farm will diversify the host land owners' income and provides them with a consistent, stable, drought resistant income. Managed grazing will be used to maintain the height of ground cover during operation of the Proposal. The land can continue to be used for agricultural purposes with a reduced capacity for grazing of the site. Except for limited and short-term earthworks associated with construction and operational use of internal tracks, the majority of the soil surfaces would not be impacted by the development in the long term. No large areas of reshaping or excavation are proposed. the site will be subject to ongoing stock impact and occasional vehicular impact which may increase surface compaction. There will be a primary change in land use from agricultural purposes to a combination of agriculture and solar farm. The development has a reversible nature so the land can be returned to its former agricultural use at the end of the operational period. Preparation of a land management plan as part of the EIS to determine how the land will be managed during operation of the solar farm. 	B	3	17

Activity	Identified Potential Conflict	Mitigating factors	P	C	RRR
		<ul style="list-style-type: none"> Preparation of a decommissioning and rehabilitation plan that will address final land use outcomes after the solar farm finishes and final infrastructure and ancillary developments will be removed. 			
Use of land with mineral resources	<p>Impacts to land with mineral resources are summarised below:</p> <ul style="list-style-type: none"> The potential exploration, assessment or extraction of minerals onsite would be impeded by the solar farm for a 25-year period. 	<ul style="list-style-type: none"> The proposal is expected to have a 25-year operational period and as the inground infrastructure will be relatively shallow (<4m) and all the infrastructure will be removed upon decommissioning, no long-term mineral exploration impacts are expected, and the land could be explored upon decommissioning. A potentially impacted exploration licence holder has been contacted and has confirmed that the proposed development would not impact their current exploration activities (refer Section 4.6). 	D	3	9
Land use change	Change from cropping and grazing agriculture to electricity generation coupled with grazing agriculture.	<ul style="list-style-type: none"> The site is predominantly used for grazing of livestock and occasional cultivation of dryland crops. The proposal will continue grazing on the land (at a reduced capacity) whilst adding a new land use. The proposed development is reversible and the land can be returned to its former use and capability upon decommissioning. 	B	4	12
Visual	<p>Visual impact to sensitive receivers nearby and loss of scenic agricultural views.</p> <p>The proposed development has a variable level of visibility but the EIA process has identified five public viewpoints and 47 potentially affected private viewpoints.</p> <p>The majority of these viewpoints have been assessed with low-moderate to moderate impact.</p>	The mitigation measures required to alleviate visual impacts are provided in section Error! Reference source not found..	B	3	17

Activity	Identified Potential Conflict	Mitigating factors	P	C	RRR
	<p>One residence within 1 km of site has a viewpoint with moderate-high impact as it has mostly unimpeded views of the proposed development.</p> <p>The change in the use of the land provides a moderate impact visual transition between commercial electricity generating uses and agricultural areas and includes changes to general amenity and the character of the landscape.</p>				
Impact on public roads	<p>Increase in heavy vehicle movements on local roads due to construction traffic.</p> <p>Impact of construction traffic along school bus routes.</p>	Construction traffic management mitigation measures are detailed in Section 6.2.5.	C	3	13
Property	Potential decrease in land and property values.	The impacts of a solar farm on neighbouring property values has not been studied in-depth however there have been numerous studies on the impacts of wind generation on neighbouring property values in the United States (<i>Hoen et al., 2010; Hoen et al. 2015; Vyn and McCullough 2014; OEH 2016</i>). These studies found the impact of wind energy generation on neighbouring property values to be negligible. As solar farms, do not have the same impacts as wind farms the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms. This issue has been addressed in Section 6.12.4.	D	2	14
Surface Water	<p>Potential impact to surface water quality and flows during construction.</p> <p>Bodangora Creek flows though the south- eastern corner of the Site and an unnamed tributary of Maryvale Creek runs through the Site from the</p>	The mitigation measures to alleviate surface water impacts are detailed in section Error! Reference source not found.. and 6.7.5.	D	4	5

Activity	Identified Potential Conflict	Mitigating factors	P	C	RRR
	<p>northern boundary to the middle of the eastern boundary.</p> <p>The proposed development incorporates a 40m buffer between infrastructure and waterways on site.</p>				
Aviation	<ul style="list-style-type: none"> Perceived glare impacts Impact to the flight path 	<ul style="list-style-type: none"> Glare impacts are assessed in Section 6.6. The Proposal is approximately 3km east of the Wellington Airport and not runway aligned. The majority of the infrastructure is low-lying (approximately 4.0m in height) and as such would not impact the flight path or present a direct hazard to aircraft. Consultation with CASA is discussed in Section 4.3. 	D	4	5
Noise	<p>Noise will impact sensitive receivers during the construction period (approximately 12 months). Construction activities will be limited to standard working hours:</p> <ul style="list-style-type: none"> Monday to Friday, 7am to 6pm Saturday, 8am to 1pm No construction work is to take place on Sundays or public holidays. <p>Construction noise and associated impacts are discussed in section Error! Reference source not found..</p>	The mitigation measures proposed to alleviate noise impacts are provided in section Error! Reference source not found..	C	3	13
	<p>Noise will impact sensitive receivers during operation due to the presence of a substation onsite.</p>	The mitigation measures proposed to alleviate noise impacts are provided in section Error! Reference source not found..	C	3	13

Activity	Identified Potential Conflict	Mitigating factors	P	C	RRR
	Operational noise and associated impacts are discussed in section Error! Reference source not found..				
Weed and Pest management	<p>The proposal has the potential to introduce disease, weeds, vermin or destructive influences to the site.</p> <p>Weed and pest control at the Site is the responsibility of the Proponent. The risk from weeds (including noxious weeds) and pests is moderate but would be subject to ongoing monitoring and management.</p>	A Land Management Plan which includes weed management has been drafted (refer Appendix L). This will be updated and incorporated into the CEMP and OEMP to prevent further weed dispersal into retained native woodland habitats and adjacent agricultural lands.	C	4	8
Use of pesticides	Pesticides may be used to control weeds at the site as part of the operational land management aspects of the solar farm.	<p>Vegetation management practices will be implemented to minimise pesticide use such as:</p> <ul style="list-style-type: none"> The use of sheep to graze between the panel rows to manage vegetation loads. Applying pesticides in accordance with the <i>Pesticides Act 1999</i>, such that only registered pesticides are used based on label instructions that are designed to minimise impacts on surrounding land. These activities are part of the land management plan reporting and monitoring activities as noted above. 	D	5	2

Based on the residual risk rating the activity likely to cause the greatest land use conflict is the alternative use of land developed for agriculture with intrinsic physical land values, visual impact followed by the potential impact on property values, impacts caused by noise and traffic during construction and land use change. In response to this separate specialist environmental assessments have been undertaken and have been summarised in their respective chapters. Impacts to de-valuation of properties is incorporated into Socio-Economic Assessment (refer Section 6.12.4) and the visual assessment (refer Appendix H) as any impact to property value would be based on visual impacts. Mitigation measures to minimise visual impact are detailed in the landscape management plan (refer Appendix H).