ENVIRONMENTAL RISK ASSESSMENT AND MITIGATION MEASURES

The following section provides recommendation for mitigation measures in response to potential impacts identified in **Section 6** of the EIS. The structure of mitigation measures is based on the DPIE's hierarchy of approaches for managing impacts identified in the *Draft Environmental Impact Assessment Guidance Series* released by DPE in June 2017, as:

- **Performance based measure** – identify performance criteria that must be complied with to achieve an appropriate environmental outcome but do not specify how the outcome is to be achieved.
- **Prescriptive measure** – require action to be taken or specify something that must not be done.
- **Management based measure** – identify one or more management objectives that must be achieved through the implementation of a management plan.

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment. The following table illustrates how the matters raised within the SEARs will be addressed.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 *Risk Management–Principles and Guidelines* (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. In accordance with the SEARs, the Environmental Risk Assessment (ERA) addresses the following significant risk issues:

- The adequacy of baseline data;
- The potential cumulative impacts arising from other developments in the vicinity of the site; and
- Measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence'.

Likelihood		**Consequence**	
A	Almost certain	1	Widespread and/or irreversible impact
B	Likely	2	Extensive but reversible (within 2 years) impact or irreversible local impact

Likelihood		Consequence	
C	Possible	3	Local, acceptable or reversible impact
D	Unlikely	4	Local, reversible, short term (<3 months) impact
E	Rare	5	Local, reversible, short term (<1 month) impact

The risk levels for likely and potential impacts were derived using the following risk matrix.

		LIKELIHOOD				
		A	**B**	**C**	**D**	**E**
CONSEQUENCE	**1**	High	High	Medium	Low	Very low
	2	High	High	Medium	Low	Very low
	3	Medium	Medium	Medium	Low	Very low
	4	Low	Low	Low	Low	Very low
	5	Very low	Very low	Very low	Very low	Very low

The results of the environmental risk assessment for the proposed development are presented in the below table and are based upon the range of technical and specialist consultant reports appended to the EIS. The table has directly related mitigation measures responding to each impact also based upon the range of technical and specialist consultant reports appended to the EIS.

N.B. 'O' – Operational; 'C' – Construction

'Pe' – Performance based mitigation measure; 'Pr' – Prescriptive based mitigation measure 'Ma' – Management based mitigation measure

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Built Form and Urban Design	Built form, scale and appearance which will be readily visible from the surrounding road network	O	D	3	Low	The proposed built form has been designed to conform with the design parameters established by SSDA 9667 (as modified)	Pe	Low
Traffic, Transport and Accessibility	Impacts on road network from construction and operational phase. Additional demand on car parking spaces.	C & O	D	3	Low	Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the site during construction. Proposed access arrangements are per the TI prepared by TTPA. Operational traffic impacts have been assessed to be consistent with impacts envisaged and approved under SSDA-9667 (as modified). Passenger vehicle parking has been provided in accordance with the RMS Guide to Traffic Generating Developments.	Ma	Low
Visual Impacts	Visual impact from key	O	D	3	Low	The proposed built form has been designed to conform with the	Pe	Low

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
	viewpoints within the surrounding existing catchment					design parameters established by SSDA-9667 (as modified). The visual impact assessment which supports the EIS package has confirmed that the proposed construction of Lots 1 and 3 will not result in any adverse impacts above those already consented to under SSD-9667		
Tree Removal	Impact on existing trees both being removed and retained	C	E	3	Medium	All site establishment works required to enable the construction of Lots 1 and 3 have been approved under SSDA 9667 and are underway. The proposal does not require any additional tree removal, and presents minor potential impact to retained vegetation	Ma	Low
Biodiversity	Impacts associated with the development in accordance with the Biodiversity Conservation	C	E	3	Low	All impacts associated with the development of Lot 1 and Lot 3 have previously been assessed and approved under SSD 9667 and the associated Biodiversity Assessment Development Report (BDAR) prepared by Ecoplanning (2020). All BOS credits have been	Ma	Low

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
	Act 2016 and the Biodiversity Assessment Method 2020					purchased and retired successfully as per condition B30, B31 and B32 of development consent SSD-9667		
Air Quality	Impacts from air emissions sources at the proposed development (during construction and operation)	C and O	C	4	Low	General environmental awareness training should be provided to relevant staff and contractors during construction and operation. All staff and contractors should be instructed to report any undue pollutant release (including odour) and visible emissions from the exhaust vents to the Site Manager. General requirements outlined in Section 5.8 of the Mod Report will form part of the installation of plant and refrigeration units. An appropriate preventative maintenance program should also be implemented, including periodically testing of all refrigeration-related safety cut-out switches to minimise the likelihood of such incidents.	Ma	Risk of any adverse off-site air quality impacts

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						A site-specific emergency plan should be prepared for the Site based on Australian Standard AS/NZS 2022 Anhydrous Ammonia – Storage and Handling (2003). Installation of appropriate mechanical air extraction systems for the facility and use of suitable exhausts/vents/stacks to ensure compliance with POEO Act limits and regulations. Fuel/oil/solvent/chemical storage areas appropriately bunded in compliance with BCA requirements and spill kits located proximal to storage areas and high use areas for immediate clean-up of spills and leaks. Regular inspection, maintenance and cleaning of equipment, extraction systems, ductwork, exhaust fans etc as required and in accordance with manufacturer's specifications.		

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Noise and Vibration	Construction and operational noise and vibration impacts om nearby sensitive receivers and structures	C and O	C	3	Medium	Prior to the commencement of major construction works, the contractor should develop a Construction Noise and Vibration Management Plan (CNVMP). The CNVMP should: ▪ Identify relevant construction noise and vibration criteria ▪ Identify neighbouring sensitive land uses for noise and vibration ▪ Summarise key noise and vibration generating construction activities and the associated predicted levels at neighbouring land uses ▪ Identify reasonable and feasible work practices to be implemented during the works ▪ Summarise stakeholder consultation and complaints handling procedures for noise and vibration	Pr/Ma	Management of noise impacts on surrounding noise sensitive receivers specifically during the construction and operation phase

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Ground and Water / Stormwater	Impacts on soil resources, including related infrastructure and riparian lands on and near the site. Impacts on surface and groundwater resources (quality and quantity)	C and O	D	2	Low	The proposal benefits from a thorough assessment of impacts relating to stormwater and flooding contained within SSD-9667 as modified. Under this consent, numerous ongoing mitigation measures are mandatory, and therefore not required to be doubled up under the assessment of this proposal. Despite this, the following mitigation measures have been noted by AT&L to ensure no adverse impacts result from the site's hydraulic management: ▪ Finished Floor Levels (FFL) are to have minimum 500mm freeboard to 100-year ARI overland flow ▪ Rainwater tanks are desirable for re-use for irrigation, toilet and other no-potable water uses only	Pr	Flood compatible material would need to be considered to eliminate the risk of flood damage from overland flooding. Details of flood compatible material will be provided in the structure report

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Hazards and Risks	Impacts from storage of dangerous goods at the site. Impact from and on adjacent Jemena Gas Pipeline	O	D	2	Low	The following recommendations are to be implemented once the proposal is operational: ▪ A minimum separation distance between the flammable liquids storage and site boundary of 6m will be provided ▪ The DGs shall be stored in a manner which complies with the applicable storage standards (i.e. AS/NZS 3833:2007 or Class specific standards such as AS 1940:2017). ▪ The documentation required by the Work Health and Safety (WHS) Regulation 2017 (Ref. [2]) shall be prepared to demonstrate the risks have been assessed and minimised So Far As Is Reasonably Practicable (SFARP) as required by the WHS Regulations.		Potential incident from Dangerous Goods stored at the site

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						▪ Where flammable gases or liquids are stored, a hazardous area classification in accordance with AS/NZS 60079.10.1:2009 (Ref. [3]) shall be prepared to ensure that an ignition source does not enter a hazardous atmosphere as required by the WHS Regulations.		
Contamination and Remediation	Impact from any ground or soil contamination to users of the site during both construction and operation	C and O	D	3	Low	Stage 1 works (including remediation) were approved under SSDA-9667 and are currently underway. No further mitigation works are required to be undertaken beyond those already required under SSD-9667.	Pr/Ma	Possible contamination on site which may impact on future users of the site
Aboriginal Cultural Heritage	Impacts for any Aboriginal cultural heritage values on the site	C and O	D	4	Low	Stage 1 works (including remediation) were approved under SSDA-9667 and are currently underway. No further mitigation works are required to be undertaken beyond those already required under SSD-9667.	Ma	All works are respectful of any archaeology significance

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Environmental Heritage	Direct or indirect impacts on the heritage significance of environmental heritage	C and O	D	4	Low	Per the above	Ma	All works are respectful of any archaeology significance
Bushfire Risk	Potential impacts from bushfire prone land adjacent to the site	C and O	C	4	Low	The development does not involve habitable uses (Class 1, 2 or 3) or Special Fire Protection Purpose (SFPP) development. Nonetheless, numerous measures have been proposed to manage the level of risk posed on the development from a bushfire. This includes providing suitable access, emergency and evacuation arrangements, water supply and other key utilities, and the appropriate storage of DGs at the site.	PR/Ma	Potential impact to property and life
Construction, Operation and Staging	Impacts from the proposed construction and operation	C	C	3	Medium	Appropriate hoarding / fencing (as specified in Australian Standards and Work Cover requirements) and safety barriers will be installed	Ma	Impacts on the amenity of

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
	of the proposed development					to the entire work areas prior to commencement of the works. As is currently installed on the site, hoardings will be erected around the perimeter of the site and maintained to prevent public access. Site signage will provide 24-hour emergency contact details including contact name and telephone number. Construction vehicle access / egress gates / Signage will be installed. These public and property protection measures will be reviewed at the time of contract award for the works to ensure alignment with proposed preferred methodologies and sequencing developments and to ensure that the safety of the general public is maintained at all times during the works. As part of the noise mitigation treatment for the project, the Main Contractor will be responsible for the management, checking of compliance		neighbouring properties

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						maintenance regimes and statutory supervision of all equipment, such as making sure all trucks and machinery involved in the works are checked for defective exhaust systems and general servicing.		