



Appendix B
Townsville City Plan
Codes

6.5.2 Medium Impact Industry Zone Code

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>For accepted development subject to requirements and assessable development – where involving a new building or expansion to an existing building Note- The following acceptable outcomes will not apply where the development is a change of use in an existing building that does not involve any expansion of that building.</p>			
Built Form			
<p>PO1 Development is consistent with the scale of surrounding buildings.</p>	<p>AO1.1 Site cover does not exceed 80%.</p>	Acceptable outcome	<p>Complies with AO1.1 Site cover does not exceed 80% of the site.</p>
	<p>AO1.2 Buildings are set back from street and road frontages: a. Within 20% of the average front setback of adjoining buildings; or b. Where there are no adjoining buildings, 6m.</p>	Acceptable outcome	<p>Complies with AO1.2 Buildings are set back a minimum of 6m from Penelope Road. At the time of this assessment, there are currently no adjoining buildings to guide front setbacks.</p>
<p>PO2 Building entrances are legible and safe.</p>	<p>AO2.1 Pedestrian entries are visible from the primary street frontage and visitor car parking areas and are separate to vehicle access points.</p>	Performance outcome	<p>Complies with PO2 The subject site is not provided with a dedicated pedestrian entry point, as the industrial nature of the use means that pedestrian access from the road frontage will unlikely be required. Notwithstanding this, pedestrian movement internal to the site is delineated and legible to ensure safe pedestrian movement separate to vehicle and machinery movement areas. Building entrances remain visible from Penelope Road and the primary proponent / visitor car parking areas.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>AO2.2 Doorway recesses in building facades are not of a size or configuration that would conceal a person, unless lighting, mirrors, transparent materials or angled approaches are included to offset the potential for impacts on safety.</p>	Acceptable outcome	Complies with AO2.2 Doorways are designed to ensure they will not conceal a person.
	<p>AO2.3 Each building or tenancy is provided with a highly visible street and unit number respectively.</p>	Acceptable outcome	Complies with AO2.3 The proposal will be provided with a highly visible street number.
	<p>AO2.4 Premises are provided with external lighting sufficient to provide safe ingress and egress for site users.</p>	Acceptable outcome	Complies with AO2.4 External lighting will be provided in accordance with the relevant Australian Standards. Site users will be provided with sufficient lighting for ingress and egress.
<p>For accepted development subject to requirements and assessable development – where involving a new building or expansion to an existing building Note- The following acceptable outcomes will not apply where the development is a change of use in an existing building that does not involve any expansion of that building.</p>			
<p>Amenity</p>			
<p>PO3 Utility elements (including refuse areas, outdoor storage, plant and equipment, loading and unloading areas) are screened from view from the street and sensitive land uses.</p>	<p>AO3 Utility elements are: a. located within or behind the buildings; or b. screened by a 1.8m high solid wall or fence; or c. behind landscaping having the same screening effect as a 1.8m screen fence. Note – Screening can be provided by any combination of the above treatments to meet the acceptable outcome</p>	Performance outcome	Complies with PO3 The nearest sensitive uses are located at least 570m from the site. As such, utility elements will not be visible from these sensitive uses. A 2m wide landscaping strip is provided along the site frontage which will assist in mitigating visual impacts from any utility elements.
<p>PO4 Landscaping is provided to create streetscapes which contribute positively to the city image, particularly along major roads and streets.</p>	<p>AO4 Landscaping is provided for a minimum depth of: a. 4m along an arterial or sub-arterial road; or</p>	Acceptable outcome	Complies with AO4 A 2m wide landscaping strip is provided along Penelope Road.

Performance outcomes	Acceptable outcomes	Solution	Comments
	b. 2m along any other road or street frontage.		
For accepted development subject to requirements and assessable development			
General			
<p>PO5 Development minimises impacts on sensitive land uses having regard to noise, vibration, odour, dust, light or other emissions. Adverse impacts on the health, safety or amenity of nearby residential zoned land or other sensitive land uses are minimised.</p> <p>Note – Applicants should have regard to relevant legislative, industry and licensing requirements.</p>	<p>AO5.1 Development achieves the noise generation levels set out in the Environmental Protection (Noise) Policy 2008.</p>	Acceptable outcome	<p>Complies with AO5.1 An acoustic assessment has been undertaken which has demonstrated that the operation of the QRCUF can achieve compliance with the Environmental Protection (Noise) Policy 2008.</p>
	<p>AO5.2 Development achieves the air quality objectives set out in the Environmental Protection (Air) Policy 2008.</p>	Acceptable outcome	<p>Complies with AO5.2 An air quality assessment has been undertaken which has anticipated that the operation of the QRCUF can achieve compliance with the Environmental Protection (Air) Policy 2008.</p>
	<p>AO5.3 Materials that are capable of generating air contaminants are wholly enclosed in storage bins.</p>	Acceptable outcome	<p>Complies with AO5.3 Materials which are capable of generating air contaminants will be wholly enclosed in storage bins.</p>
	<p>AO5.4 All external areas are sealed, turfed or landscaped.</p>	Acceptable outcome	<p>Complies with AO5.4 All external areas will be sealed, turfed or landscaped. No exposed soils will remain during ongoing use of the site. The northern portion of the site will retain the existing hardstand area.</p>
	<p>AO5.5 Light emanating from any source complies with <i>Australian Standard AS4282 Control of the Obtrusive Effects of Outdoor Lighting</i>.</p>	Acceptable outcome	<p>Complies with AO5.5 Lighting will be designed in accordance with the relevant Australian Standards.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>A05.6 Outdoor lighting is provided in accordance with <i>Australian Standard AS 1158.1.1 — Road Lighting — Vehicular Traffic (Category V) Lighting — Performance and Installation Design Requirements</i>.</p>	Acceptable outcome	<p>Complies with A05.6 Lighting will be designed in accordance with the relevant Australian Standards.</p>
<p>PO6 Development provides for the collection, treatment and disposal of liquid wastes or sources of contamination such that off-site releases of contaminants do not occur.</p> <p>Note – Applicants should also have regard to Section 9.3.7 Works code, Section 9.3.2 Healthy waters code and other relevant legislative, industry and licensing requirements.</p>	<p>A06.1 Areas where potentially contaminating substances are stored or used, are roofed and sealed with concrete, asphalt or similar impervious substance and bunded.</p>	Acceptable outcome	<p>Complies with A06.1 Areas for the storage of potentially contaminating substances will be impervious, roofed, and bunded. Refer to Appendix H and Appendix J for more information pertaining to bunding.</p>
	<p>A06.2 Roof water is piped away from areas of potential contamination.</p>	Acceptable outcome	<p>Complies with A06.2 Roof water is piped away from areas of potential contamination. Refer to the attached Engineering Services Report (Appendix H) for stormwater management.</p>
<p>PO7 The site layout and design:</p> <ul style="list-style-type: none"> a. minimises earthworks. b. maximises retention of natural drainage patterns; and c. ensures existing drainage capacity is not reduced. 	<p>A07 Development does not involve earthworks involving more than 100m³.</p>	Performance outcome	<p>Complies with A07 Approved earthworks (OPW24/0060) have recently been completed within the site to achieve flood immunity at the Q500 level. The low topography of the site means that drainage paths are retained. Appendix H demonstrates that the QRCUF will not present a worsening scenario for stormwater discharge.</p>
For accepted development subject to requirements and assessable development			
Defence Land			
<p>PO8 Development does not adversely affect the safe and efficient operation of nearby Department of Defence land.</p>	<p>A08 All buildings and operational components of a use are setback not less than 100m from the</p>	N/A	<p>Not applicable Development is not taking place on Defence Land.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	closest boundary of land in the control of or used by the Department of Defence.		
For accepted development subject to requirements and assessable development			
Caretaker's accommodation			
PO9 Development does not compromise the viability of the primary use of the site.	AO9.1 No more than one (1) caretaker's accommodation dwelling is established on the site.	N/A	Not applicable Development does not involve Caretaker's accommodation.
	AO9.2 The caretaker's accommodation dwelling has a gross floor area of no more than 70m ² .	N/A	Not applicable Development does not involve Caretaker's accommodation.
For accepted development subject to requirements and assessable development			
Ancillary office use			
PO10 Offices are accommodated where they are ancillary to the primary industrial use on the site.	AO10 The area used for an office use does not exceed 250m ² or 10% of the gross floor area, whichever is the lesser.	Acceptable outcome	Complies with AO10 The office component is integrated into the operations building, which is approximately 7.7% of the total gross floor area.
For assessable development			
Uses			
PO11 Development within the zone facilitates: a. industrial activities whose impacts on sensitive land uses and the natural environment can be appropriately managed; or b. uses which require larger sites in locations that are separated from sensitive land uses, and are not more appropriately accommodated in other zones; or	No acceptable outcome is nominated.	Performance outcome	Complies with PO11 The development proposes a research and technology industry use for the purpose of a critical minerals processing facility designed to accommodate trials of extraction of a range of critical minerals from various feedstocks. The proposed use supports the economy of Townsville and central Queensland by identifying and adopting improved methods of

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>c. non-industrial uses which are small in scale and ancillary to or directly support the industrial functions of the area.</p>			<p>extraction technology for use within the various mines around Queensland.</p> <p>Although essentially for research and technological development purposes, the proposed facility is industrial in nature, involving noise generating activities such as crushing, processing and sorting of ore materials. These processes warrant the use of larger industrial sites to accommodate the industrial processes and machinery required to process minerals from ore.</p> <p>The site is well separated from sensitive receivers, with the closest noted as a caravan park to the south-west of the site. Noise generation has been determined and mitigation methods raised within a Noise Assessment (refer to Appendix G). As such, impacts to sensitive uses are manageable, making the use appropriate for the site.</p> <p>The proposed use of the site is commensurate with the intent of the zone.</p>
<p>PO12 Development is not primarily oriented to retail sales, other than where involving an outdoor sales activity.</p>	<p>No acceptable outcome is nominated.</p>	<p>Performance outcome</p>	<p>Complies with PO12 Development does not involve retail sales.</p>
<p>PO13 Development does not significantly detract from the availability or utility of land for industry purposes.</p>	<p>No acceptable outcome is nominated.</p>	<p>Performance outcome</p>	<p>Complies with PO13 Research and technology industry uses are intended to establish in and are compatible with the medium industry zone. The proposed development is facilitative of the outcomes expected for the zone. As such, the use does not detract from the availability or utility of land for industry purposes.</p>
<p>For assessable development</p>			

Performance outcomes	Acceptable outcomes	Solution	Comments
Crime prevention through environmental design			
<p>PO14</p> <p>Site layout facilitates the security of people and property having regard to:</p> <ul style="list-style-type: none"> a. opportunities for casual surveillance and sight lines b. exterior building design which promote safety and deter graffiti; c. adequate definition of uses and ownership d. adequate lighting; e. appropriate signage and wayfinding; f. minimisation of entrapment locations; and g. building entrances, loading and storage areas being well lit and lockable after hours. <p>Note – Applicants should have regard to Crime Prevention through Environmental Design Guidelines for Queensland.</p>	<p>No acceptable outcome is nominated.</p>	<p>Performance outcome</p>	<p>Complies with PO14</p> <p>CPTED principles have been adopted in the design of the development:</p> <ul style="list-style-type: none"> a. buildings and activity areas provide opportunity for casual surveillance of public spaces. b. the exterior of the buildings can be easily cleaned or repaired to remove graffiti or the consequences of vandalism. c. public access areas will be clearly identified and securely separated from the restricted access areas by fences and gates. Although the development is an integrated facility, each of the buildings will be specifically designed for a designated use (for example, operations and office) and will be clearly identified and legible as purpose built for that use. d. lighting will be provided in accordance with the relevant Australian Standards. e. signage and wayfinding will be provided. f. the site remains generally open, minimising entrapment areas. Areas where entrapment could occur are usually activity spaces, minimising the likelihood of unsocial activity. g. lighting will be provided in accordance with the relevant Australian Standards. Buildings will be lockable to prevent unauthorised access outside of operating hours.

Performance outcomes	Acceptable outcomes	Solution	Comments
For assessable development			
Community and environmental Risk			
<p>PO15 Development is designed and managed so that it provides appropriate protection for community health and safety, and avoids unacceptable risk to life and property.</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO15 Air and noise emissions generated by the proposed use have been identified and mitigation methods recommended (refer to Appendix F and G).</p>
<p>PO16 The site layout and design responds sensitively to on-site and surrounding drainage patterns and ecological values by:</p> <ul style="list-style-type: none"> a. maximising retention of natural drainage patterns; b. ensuring existing drainage capacity is not reduced; c. maximising the retention or enhancement of existing vegetation and ecological corridors; and d. providing buffers to protect the ecological functions of waterways. 	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO16 On-site drainage patterns and ecological values are addressed as follows:</p> <ul style="list-style-type: none"> a. the subject site has a relatively low gradient which will not be significantly impacted by the development. Natural drainage patterns will thus be retained. b. a site-based stormwater management plan has been prepared (refer to Appendix H) confirming that the proposed development is within the modelled parameters for the site. c. the site was cleared of vegetation as part of the industrial subdivision. d. the site is bordered by a lot functioning as an environmental management precinct, which is intended to provide protection of local environmental values, including that of the adjacent waterway (Stuart Creek). Accordingly, there is no requirement to provide a buffer within the site. All activity on the site will be managed to ensure damage to the adjoining waterway does not occur.

Performance outcomes	Acceptable outcomes	Solution	Comments
Additional benchmarks for assessable development in precincts			
Roseneath medium impact industry precinct			
<p>PO17 Development is supported by adequate infrastructure, including:</p> <ul style="list-style-type: none"> a. connection to reticulated water and sewage networks; b. connection to a stormwater drainage system; and c. constructed roads. 	No acceptable outcome is nominated.	N/A	<p>Not applicable The development is not within the Roseneath medium impact industry precinct.</p>
<p>PO18 Development protects the environmental quality, existing riparian vegetation and hydraulic capacity of waterways including Stuart and Stoney Creeks.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development is not within the Roseneath medium impact industry precinct..</p>
<p>PO19 Development does not compromise the safe use of the nearby magazine reserve.</p>	<p>AO19 The development does not compromise the protective works safety distance from explosive storage stipulated in <i>AS2187-1 Explosives — Storage, transport and use</i> and is otherwise consistent with that standard.</p> <p>Note – The magazine reserve is located on the following property descriptions, Lot 103 Plan EP2187 and Lot 220 Plan SP138418.</p>	N/A	<p>Not applicable The development is not within the Roseneath medium impact industry precinct.</p>
<p>PO20 Impacts on nearby residential uses are minimised as far as practicable.</p> <p>Note – Applicants should have regard to relevant legislative, industry and licensing requirements.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development is not within the Roseneath medium impact industry precinct.</p>

9.3.2 Healthy Waters Code

Performance outcomes	Acceptable outcomes	Solution	Comments
Stormwater management - protecting water quality			
<p>PO1 Development contributes to the protection of environmental values and water quality objectives of receiving waters to the extent practicable</p> <p>Note – The environmental values and water quality objectives are established under the Environmental Protection (Water and Wetland Biodiversity) Policy (2019). Catchment-specific Environmental Values (EVs) and Water Quality Objectives (WQOs) have been prepared for some catchments (including the Ross River and Black River catchments). The Queensland Water Quality Guidelines 2009 provides EVs and WQOs for waters where no catchment-specific values have been established.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans; and SC6.4.10.2 Water Sensitive Urban Design.</p>	Performance outcome	<p>Complies with PO1</p> <p>Stormwater quality has been assessed within the attached Engineering Services Report (refer to Appendix H) which identifies stormwater quality treatment measures which contribute to the protection of environmental values and water quality objectives of receiving waters.</p>
<p>PO2 High environmental value waters and slightly disturbed waters (shown on Figure 9.1 — High environmental value waters and slightly disturbed waters) are protected from the impacts of development within their catchments. Existing water quality, habitat and biota values, flow regimes and riparian areas are maintained or enhanced.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Refer to the <i>Queensland Water Quality Guidelines (QWQG)</i> for details on how to establish a minimum water quality data set for these areas.</p>	Performance outcome	<p>Complies with PO2</p> <p>The development is not taking place within or near high environmental value waters or slightly disturbed waters. Notwithstanding this, stormwater quality treatment measures have been identified (refer to Appendix H) to protect catchments around the site.</p>
<p>PO3 The entry of contaminants into, and transport of contaminants in, stormwater is avoided or minimised.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans; and SC6.4.10.2 Water Sensitive Urban Design.</p>	Performance outcome	<p>Complies with PO3</p> <p>Stormwater quality treatment measures have been identified (refer to Appendix H) to protect catchments around the site.</p>
<p>PO4 Within the areas identified as potential acid sulfate soils on Figure 9.2 — Acid sulfate soils, the generation or release of acid and metal</p>	<p>AO4.1 Development does not:</p>	Performance outcome	<p>Complies with PO4</p> <p>The release of acid sulfate soils will be managed during post-construction works through an Acid Sulfate Soils Management Plan.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>contaminants into the environment from acid sulfate soils is avoided by:</p> <ul style="list-style-type: none"> a. not disturbing acid sulfate soils when excavating or otherwise removing soil or sediment, draining or extracting groundwater, excluding tidal water or filling land; or b. where disturbance of acid sulfate soils cannot be avoided, development: <ul style="list-style-type: none"> i. neutralises existing acidity and prevents the generation of acid and metal contaminants; and ii. prevents the release of surface or groundwater flows containing acid and metal contaminants into the environment. 	<ul style="list-style-type: none"> c. involve excavating or removing 100m³ or more of soil and sediment at or below 5m AHD; or d. permanently or temporarily drain or extract groundwater or exclude tidal water resulting in the aeration of previously saturated acid sulfate soils; or e. involve filling with 500m³ or more with an average depth of 0.5m or greater that results in: <ul style="list-style-type: none"> i. actual acid sulfate soils being moved below the water table; or ii. previously saturated acid sulfate soils being aerated. <p>OR</p> <p>AO4.2</p> <p>Development manages waters so that:</p> <ul style="list-style-type: none"> a. all disturbed acid sulfate soils are adequately treated and/or managed so that they can no longer release acid or heavy metals; b. the pH of all site and any water including discharges and seepage to groundwater, is maintained between 6.5 and 8.5 (or an agreed pH in line with natural background); c. waters on the site, including discharges and seepage to groundwater, do not contain elevated levels of soluble metals; d. there are no visible iron stains, flocs or sums in discharge water; e. all reasonable preparations and actions are undertaken to ensure that aquatic health is safeguarded; and 		

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>f. infrastructure such as buried services, pipes, culverts and bridges are protected from acid attack.</p> <p>Note – Where works are proposed within the areas identified as potential acid sulfate soils on Figure 9.2 - Acid sulfate soils, the applicant is required to undertake an on-site acid sulfate investigation. The reason for undertaking an acid sulfate soils investigation is to determine the presence of acid sulfate soil in order to avoid disturbance. Where acid sulfate soils cannot reasonably be avoided, investigation results assist in the planning of treatment and remedial activities and must be undertaken in accordance with the <i>Queensland Acid Sulfate Soil Technical Manual</i> and relevant State Planning Policy. Applicants should also refer to the <i>Guidelines for Sampling Analysis of Lowland Acid Sulfate Soils in Queensland</i>, Acid Sulfate Soils Laboratory Methods Guidelines or Australian Standard 4969. It is highly recommended that the applicant develop a practical Acid Sulfate Soil Management Plan for use in monitoring and treating acid sulfate soils.</p>		
<p>PO5 Construction activities for the development avoid or minimise adverse impacts on stormwater quality or hydrological processes.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans, SC6.4.23.1 Construction Management; and SC6.4.10.2 - Water Sensitive Urban Design.</p>	<p>Performance outcome</p>	<p>Complies with PO5 Erosion and sediment control measures will be implemented during construction to avoid impacts on stormwater quality or hydrological processes.</p>
Hydrological processes			
<p>PO6 The stormwater management system: a. retains natural waterway corridors and drainage paths; and</p>	<p>AO6.1 All existing waterways and overland flow paths are retained.</p>	<p>Acceptable outcome</p>	<p>Complies with AO6.1 The development does not compromise any existing waterways or overland flow paths.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>b. maximises the use of natural channel design in constructed components.</p>	<p>AO6.2 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design.</p>	<p>Acceptable outcome</p>	<p>Complies with AO6.2 Stormwater management is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design.</p>
<p>PO7 The development is designed to minimise run-off and peak flows by:</p> <p>a. minimising large areas of impervious material; and</p> <p>b. maximising opportunities for capture and reuse.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8.10 Stormwater Management Plans; and SC6.4.10.2 Water Sensitive Urban Design.</p>	<p>Performance outcome</p>	<p>Complies with PO7 The subject site has been created as part of an industrial subdivision and will be largely impervious. Impervious area assumptions (90%) were made for the original approval for the industrial subdivision and the proposed research and technology industry use conforms to these assumptions. No additional stormwater quantity measures are required to manage run-off or peak flows. An Engineering Services Report has been prepared (refer to Appendix H) detailing stormwater management.</p>
<p>PO8 Stormwater management is designed to:</p> <p>a. protect in-stream ecosystems from the significant effects of increased run-off frequency by capturing the initial portion of run-off from impervious areas; and</p> <p>b. create conditions such that the frequency of hydraulic disturbance to in-stream ecosystems in developed catchments is similar to pre-development conditions.</p> <p>Note – Frequent flow management is distinct from flood management purposes, which is concerned with the management of less frequent, more extreme stormwater flows. The latter is an</p>	<p>AO8 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity and SC6.4.10 Stormwater Quality.</p>	<p>Performance outcome</p>	<p>Complies with PO8 The subject site has been created as part of an industrial subdivision and will be largely impervious. Impervious area assumptions (90%) were made for the original approval for the industrial subdivision and the proposed research and technology industry use conforms to these assumptions. No additional stormwater quantity measures are required to manage run-off or peak flows, maintaining pre-development conditions.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
important part of integrated stormwater management and should in no way be compromised in pursuit of the management of more frequent flows for waterway health enhancement.			An Engineering Services Report has been prepared (refer to Appendix H) detailing stormwater management.
PO9 Stormwater management is designed to prevent exacerbated in-stream erosion downstream of a development site by controlling the magnitude and duration of sediment-transporting, erosion-causing flows.	AO9 The stormwater management system is designed in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.10.2 Water Sensitive Urban Design and SC6.4.8.10 Stormwater Management Plans .	Performance outcome	Complies with PO9 Stormwater flows will conform with pre-development conditions (refer to Appendix H) and thus it is not anticipated that the development will exacerbate in-stream erosion downstream of the development site.
Stormwater Drainage Generally			
PO10 The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.	AO10.1 The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	Acceptable outcome	Complies with AO10.1 Stormwater flows will conform to pre-development conditions (refer to Appendix H) and thus will not result in an increase in flood level or flood duration on upstream, downstream, or adjacent properties.
	AO10.2 The stormwater management system is designed and constructed in accordance with the Development manual planning scheme policy SC6.4 — <u>SC6.4.8 Stormwater Management</u> , <u>SC6.4.9 Stormwater Quantity</u> ; and <u>SC6.4.10 Stormwater Quality</u> .	Performance outcome	Complies with PO10 Stormwater flows will conform to pre-development conditions (refer to Appendix H). Therefore, the proposed stormwater management system and site works will not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site. Notably, the site has been created as part of an industrial subdivision and has been filled to ensure flood immunity (OPW24/0060).
PO11 Development does not cause ponding, or changes in flows and velocities such that the safety, use	AO11 The stormwater management system is designed and constructed in accordance with the Development manual planning	Performance outcome	Complies with PO11 Stormwater flows will conform with pre-development conditions (refer to Appendix H). As such, the development will not cause

Performance outcomes	Acceptable outcomes	Solution	Comments
and enjoyment of nearby properties are adversely affected.	scheme policy SC6.4 – SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.		ponding, or changes in flows and velocities. No impacts to nearby properties are envisaged.
PO12 The drainage network has sufficient capacity to safely convey stormwater run-off from the site.	AO12 Development is undertaken in accordance with the Development manual planning scheme policy SC6.4 – SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	Performance outcome	Complies with PO12 Impervious area assumptions (90%) were made for the original approval of the industrial subdivision and the proposed research and technology industry use conforms to these assumptions. Therefore, the drainage network maintains sufficient capacity to safely convey stormwater run-off from the site (refer to Appendix H).
PO13 The stormwater management system: a. provides for safe access and maintenance; and b. where relevant, provides for safe recreational use of stormwater management features.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy SC6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	Performance outcome	Complies with PO13 Stormwater management will be safely accessible for maintenance (refer to Appendix H). No opportunity exists for recreational use of stormwater management facilities.
Point source waste water management (other than contaminated stormwater and sewage)			
PO14 Waste water is managed in accordance with a waste management hierarchy that: a. avoids waste water discharge to waterways; or b. if waste water discharge to waterways cannot practicably be avoided, minimises waste water discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and groundwater. Note – To meet this outcome, a waste water management plan (WWMP) should be prepared by a suitably qualified person. The WWMP is to account for the waste water type, climatic conditions, Water Quality Objective (WQOs) and best practice environmental management.	No acceptable outcome is nominated.	Performance outcome	Complies with PO14 The development will be connected to Council's reticulated wastewater network. As such, wastewater will not be discharged to a waterway. Refer to Appendix J for additional information pertaining to management of waste liquids.

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO15 Any treatment and disposal of waste water to a waterway:</p> <ul style="list-style-type: none"> a. protects the applicable water quality objectives for the receiving waters; and b. avoids adverse impact on ecosystem health of receiving waters. 	No acceptable outcome is nominated.	N/A	<p>Not applicable No disposal of wastewater to a waterway will occur. The development will be connected to Council's reticulated wastewater network.</p>
<p>PO16 Development avoids or minimises and appropriately manages soil disturbance or altering natural hydrology in nutrient hazardous areas.</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO16 Erosion and sediment control measures will be implemented during construction activities. Water quality will be managed appropriate during site operation (refer to Appendix H).</p>
<p>PO17 Waste water discharge to waterways is managed to avoid or minimise the release of nutrients of concern so as to minimise the occurrence, frequency and intensity of coastal algal blooms.</p> <p>Note – Compliance with this outcome can be demonstrated by following the management advice in the Implementing Policies and Plans for Managing Nutrients of Concern for Coastal Algal Blooms in Queensland and associated technical guideline.</p>	No acceptable outcome is nominated.	N/A	<p>Complies with PO17 No disposal of wastewater to a waterway will occur. The development will be connected to Council's reticulated wastewater network.</p>
Constructed lakes and artificial waterways			
<p>PO18 Where established, a constructed lake or artificial waterway is designed to maintain a reasonable standard of water quality, having regard to factors affecting lake health, including:</p> <ul style="list-style-type: none"> a. nutrients and eutrophication; b. gross pollutants, including organic material; c. light and turbidity; d. organic carbon loads; e. lake stormwater detention time; 	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>	N/A	<p>Not applicable The development does not establish a constructed lake or artificial waterway.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<ul style="list-style-type: none"> f. salinity; g. temperature; h. water depth and seasonal variations; i. water column mixing temperature; and j. pesticides and other chemicals. 			
<p>PO19 Stormwater run-off entering and leaving a constructed lake or artificial waterway maintains receiving water quality.</p>	<p>AO19 No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy no. SC 6.4 - SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>	Performance outcome	Complies with PO19 Stormwater quality measures have been raised within the attached Engineering Services Report (refer to Appendix H). Stormwater run-off will not compromise water quality of any constructed lakes or artificial waterways.
<p>PO20 The location, design and operation of a constructed lake or artificial waterway:</p> <ul style="list-style-type: none"> a. protects environmental values in downstream and upstream waterways; b. protects any groundwater recharge areas; c. incorporates low lying areas of a catchment connected to an existing waterway; d. does not disrupt natural wetlands and any associated buffer areas; e. avoids disturbing soils or sediments; and f. avoids altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas. <p>Note – Monitoring and maintenance programs will be required to adaptively manage water quality and to achieve relevant water quality objectives.</p>	No acceptable outcome is nominated.	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.
<p>PO21 The constructed lake or artificial waterway is located in a way that is compatible with existing tidal waterways.</p>	<p>For constructed lakes — No acceptable solution is nominated. AO21 For an artificial waterway:</p>	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>Where an artificial waterway is located adjacent to, or connected to, a tidal waterway by means of a weir, lock, pumping system or similar:</p> <ol style="list-style-type: none"> there is sufficient flushing or tidal flushing with water level variation >0.3m; any tidal flow alteration does not adversely impact on the tidal waterway; and there is no introduction of salt water into freshwater environments. <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>		
<p>PO22 The construction phase for the constructed lake or artificial waterway is compatible with protecting aquatic environmental values in existing natural waterways and wetlands.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>	N/A	<p>Not applicable The development does not establish a constructed lake or artificial waterway.</p>
<p>PO23 A constructed lake or artificial waterway is designed to avoid terrestrial and aquatic weeds, vectors and concentrations of populations.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>	N/A	<p>Not applicable The development does not establish a constructed lake or artificial waterway.</p>
<p>PO24 The lake design provides for suitable machinery access to enable maintenance of the lake,</p>	<p>No acceptable outcome is nominated.</p>	N/A	<p>Not applicable The development does not establish a constructed lake.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
including the removal of terrestrial and aquatic weeds.	Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.		
PO25 A constructed lake or artificial waterway has no adverse impact on flood capacity, including the capacity of upstream catchments and floodplain areas.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.
PO26 A constructed lake or artificial waterway is designed to minimise hazards to ensure public safety is maintained.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.
PO27 A constructed lake or artificial waterway is designed to provide a high level of amenity for surrounding residents.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.
PO28 Opportunities for incorporation of accessible passive and active recreation facilities	No acceptable outcome is nominated.	N/A	Not applicable The development does not establish a constructed lake or artificial waterway.

Performance outcomes	Acceptable outcomes	Solution	Comments
into the design of the constructed lake or artificial waterway are facilitated.	Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.		
Efficiency and whole of life cycle cost			
PO29 Life cycle costs are minimised, taking into account acquisition, construction, establishment, operation, monitoring, maintenance, replacement and disposal costs.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Performance outcome	Complies with PO29 Life cycle costs have been considered in the design of stormwater quantity and quality management measures (refer to Appendix H).
PO30 The design of the development allows for sufficient site area to accommodate an effective stormwater management system.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Performance outcome	Complies with PO30 The development is taking place on a 35,480m ² site, which has sufficient area to accommodate effective stormwater management systems (refer to Appendix H).
PO31 The proposal provides for the orderly development of stormwater infrastructure within a catchment, having regard to: a. existing capacity of stormwater infrastructure and ultimate catchment conditions; b. discharge for existing and future upstream development; and c. protecting the integrity of adjacent and downstream development.	No acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.	Performance outcome	Complies with PO31 Orderly stormwater infrastructure has been established within the site as part of a previous industrial subdivision. The proposed development utilises this infrastructure and conforms to impervious area assumptions, resulting in no need for additional consideration of catchment wide impacts.

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO32 Proposed stormwater infrastructure remains fit for purpose for the life of the development.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.</p>	Performance outcome	<p>Complies with PO32 It is anticipated that stormwater infrastructure will be designed to be fit for purposes for the life of the proposed development (refer to Appendix H).</p>
<p>PO33 Proposed stormwater infrastructure can be easily accessed and can be maintained in a safe and cost effective way.</p>	<p>PO32 The stormwater management system is designed in accordance with the Development manual planning SC6.4.8 Stormwater Management, SC6.4.9 Stormwater Quantity; and SC6.4.10 Stormwater Quality.</p>	Performance outcome	<p>Complies with PO33 Stormwater infrastructure has been established within the site as part of a previous industrial subdivision. The proposed development utilises this infrastructure, which is easily accessible and maintainable in a safe and cost-effective way.</p>
Water management in reconfiguring a lot			
<p>PO34 Reconfiguration of lots includes water management measures in the design of any road reserve, streetscape or drainage networks to:</p> <ul style="list-style-type: none"> a. minimise impacts on the water cycle; b. protect waterway health by improving stormwater quality and reducing site run-off; and c. avoid large areas of impervious surfaces. 	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy SC6.4 for assistance in demonstrating this outcome.</p>	N/A	<p>Not applicable The development does not involve a reconfiguring a lot.</p>
Ship-sourced pollutants			
<p>PO35 Common user facilities for the handling and disposal of ship-sourced pollutants including oil, garbage and sewage are provided at a suitable location in any development involving a marina or berthing facilities.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development does not involve a common user facility for the handling and disposal of ship-sourced pollutants.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>Note – Refer to: <i>Australian and New Zealand Environment and Conservation Council (ANZECC), 1997, Best Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand.</i></p>			
<p>PO36 Marinas or berthing facilities are designed and operated to ensure the risk of spillage from operations is minimised.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development does not involve a berthing facility or marina.</p>
<p>PO37 Equipment to contain and remove spillages is stored in a convenient position near marina or berthing facilities and is available for immediate use.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development does not involve a berthing facility or marina.</p>
<p>PO38 Where practical, the marina pollutant reception facility is connected to a sewerage or other waste reception infrastructure.</p> <p>Note – Reception facilities require compliance assessment under the <i>Plumbing and Drainage Act 2002</i>. The plumbing compliance assessment process will ensure that the proposed facilities address 'peak load'.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development does not involve a marina.</p>

9.3.3 Landscaping Code

Performance outcomes	Acceptable outcomes	Solution	Comments
Landscape Design and character			
<p>PO1 The overall landscape design of both public and private spaces:</p> <ul style="list-style-type: none"> a. creates a sense of place that is consistent with the intended character of the streetscape, city or locality; and b. is functional and designed to be visually appealing in the long-term as well as when first constructed. 	<p>AO1.1 When the development is in an identified locality in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space, landscape design is in accordance with the requirements for that area. Otherwise, no acceptable outcome is nominated. Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	<p>Performance outcome</p>	<p>Complies with PO1 The development is not taking place within an identified locality. A landscape concept plan has been developed for the site incorporating landscaping treatments in accordance with the Townsville City Plan and pre-lodgement advice obtained from Townsville City Council. The implemented landscaping softens the visual presence of the QRCUF along Penelope Road. Refer to Appendix I for more information.</p>
<p>PO2 Tree and plant section ensures:</p> <ul style="list-style-type: none"> a. climatically appropriate landscaping; b. creation of a diverse palette: in form, texture and seasonal colour; c. longevity of plants and the form and function of landscaped areas; and d. cost effective and convenient maintenance over the long-term. 	<p>AO2.1 Species are selected from those listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	<p>Acceptable outcome</p>	<p>Complies with AO2.1 Species are selected in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>
	<p>AO2.2 Plant species do not include undesirable species as listed in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	<p>Acceptable outcome</p>	<p>Complies with AO2.2 Undesirable species will not be utilised.</p>
<p>PO3 Where appropriate, provision is made for on-street planting that:</p> <ul style="list-style-type: none"> a. complements the local streetscape; b. ensures visibility is maintained from entrances and exits to properties and at intersections; 	<p>AO3 Street planting is provided that is consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	<p>Acceptable outcome</p>	<p>Complies with AO3 Street tree planting is provided in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<ul style="list-style-type: none"> c. establishes healthy vegetation of suitable species; d. minimises the potential for vegetation to cause damage to persons, property or infrastructure; and e. does not limit or hinder pedestrian or vehicular flow and movement. 	<p>Note – Applicants may also have reference to the Development manual planning scheme policy no. SC6.4 - SC6.4.6.1 Geometric Road Design.</p>		
<p>PO4 Streetscape treatments and paving form a functional and attractive component of the overall landscape scheme.</p>	<p>AO4.1 All general streetscape elements are provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	N/A	Not applicable No streetscape treatments or paving is proposed.
	<p>AO4.2 Streetscape pavements are provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	N/A	Not applicable No streetscape treatments or paving is proposed.
	<p>AO4.3 Streetscape furniture is provided in accordance with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	N/A	Not applicable No streetscape treatments or paving is proposed.
<p>PO5 Landscaping within on-site open space areas is well-designed, having regard to its purpose and the provision of shading, climatic response, and the proportion of soft and hard elements.</p>	<p>AO5.1 Selected tree species within communal recreation areas are to provide at least 30% shade coverage within 5 — 10 years of planting.</p>	N/A	Not applicable The development does not provide any communal recreation areas.

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>A05.2</p> <p>A minimum of 50% of landscaped areas are to be covered in soft landscaping (turf areas and planting beds), with at least 25% of that area being planting.</p>	Performance outcome	<p>Complies with PO5</p> <p>The large area of the site does not provide opportunity for 25% of the site to be landscaped. Landscaping is utilised along the frontage, southern boundary, within car parking areas, and between building visible from the frontage to soften the visual presence of the site and provide shading. The remainder of the landscaped area is turfed to maintain pervious areas within the site. An area of hardstand will be retained within the northern portion of the site.</p>
<p>PO6</p> <p>Landscaping and embellishments in local recreational parks is fit for purpose and well-designed, having regard to shading, climatic response, and the proportion of soft and hard elements. Landscaping softens edges and creates an attractive interface with adjoining land.</p>	<p>A06</p> <p>Landscaping and embellishments are provided that are consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p> <p>Note – Applicants should also have regard to requirements for local recreational parks in the Reconfiguring of a lot code.</p>	N/A	<p>Not applicable</p> <p>The development is not taking place within a local park.</p>
<p>PO7</p> <p>The use of hard surface treatments within private and public spaces do not detract from a high standard of amenity, and large unbroken areas of hardstand material is avoided.</p>	<p>A07</p> <p>Surface treatments are provided that are consistent with the standards set out in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Performance outcome	<p>Complies with PO7</p> <p>Surface treatments will be provided in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p> <p>A large area of hardstand is retained within the northern portion of the site. However, this area of hardstand does not detract from the amenity of the area, being an industrial estate where hardstand is a common element. Furthermore, the hardstand is limited to an area of the site not</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
			currently utilised by the QRCUF, effectively acting as balance area.
Edge Treatments			
<p>PO8</p> <p>Where provided, landscape design along site frontages is used to mitigate adverse aesthetic elements, provide privacy and reduce illumination impacts, while maintaining a safe environment for users.</p>	<p>AO8</p> <p>Landscaped areas along the frontage of a site consists of:</p> <ul style="list-style-type: none"> a. shade or rounded canopy trees that will provide a minimum of 50% shade to the frontage of the site within 5 years of planting; b. shrubs that provide screening to blank walls and privacy as required; and c. low shrubs and ground covers that reach a maximum height of 750mm at maturity. 	Acceptable outcome	<p>Complies with AO8</p> <p>Frontage landscaping is provided in accordance with this outcome. Refer to Appendix I for more information.</p>
<p>PO9</p> <p>Where appropriate, acoustic barriers and long fences along road frontages and within the development are screened or softened by landscaping or architectural embellishment to improve visual amenity of the development.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Performance outcome	<p>Complies with PO9</p> <p>The frontage fence is landscaped with a 2m planting buffer to soften the built form of the site and improve visual amenity.</p>
<p>PO10</p> <p>Where provided, landscaping along a side or rear boundary assists in maintaining privacy, screening unsightly or service elements and enhancing the appearance of the development from nearby premises.</p>	<p>AO10.1</p> <p>Screen planting is provided along the side or rear boundary of a site, which consists of:</p> <ul style="list-style-type: none"> a. either trees with a maximum spacing of 3m (measured from centres) and capable of providing a dense screen within 3 years of planting or screening shrubs capable of growing to a height of 3m within 2 years of planting; and b. low shrubs and ground covers, where appropriate, to allow for complete covering of planting area. 	Performance outcome	<p>Complies with PO10</p> <p>Planting is provided along the southern side boundary which assists in softening the visual presence of the QRCUF. Townsville City Council have confirmed through pre-lodgement advice that rear boundary planting is not required. The northern side boundary is adjacent to a drainage corridor and does not require screen planting.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>AO10.2 A minimum of 25% of all trees are to grow above the height of the eaves of the equivalent second storey of the building.</p>	N/A	<p>Complies with AO10.2 A minimum of 25% of trees will grow to an equivalent height of two storeys.</p>
<p>PO11 Landscaped areas along or near retaining walls, long unbroken walls, service areas and parking areas consist of an appropriate combination and species of trees, shrubs and groundcovers to minimise the visual impact of these elements.</p>	<p>AO11 No acceptable outcome is nominated. Note – Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Performance outcome	<p>Complies with PO11 Car parking and service area planting is provided generally in accordance with the Development manual planning scheme policy no. SC6.4.12. No retaining walls are proposed that would warrant landscape treatment.</p>
<p>PO12 Screening trees, shrubs, low shrubs, ground covers and vertical accent plants are appropriate for the space available, orientation and functional requirements of the area.</p>	<p>AO12 No acceptable outcome is nominated. Note – Guidance on desirable treatments in particular circumstances is provided in the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Performance outcome	<p>Complies with PO12 Screening trees and shrubs along the site frontage and southern side boundary are appropriate for their location and are functional in visually softening the QRUCF. Refer to Appendix I for more information.</p>
Maintenance, drainage, utilities, services and construction			
<p>PO13 Plant selection and location protects the integrity and function of overhead and underground services.</p>	<p>AO13 Plant selection and location complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Acceptable outcome	<p>Complies with AO13 Plant selection complies with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>
<p>PO14 Landscape elements do not adversely affect stormwater quantity or quality by ensuring:</p> <ul style="list-style-type: none"> a. the flow of water along overland flow paths is not restricted; b. opportunities for water infiltration are maximised; and 	<p>No acceptable outcome is nominated. Note – Applicants should also refer to Section 9.3.6 Works code and Section 9.3.2 Healthy waters code and the Development manual planning scheme policy no. SC6.4 to assist in demonstrating the outcome.</p>	Performance outcome	<p>Complies with PO14 The site does not contain an overland flow path. The presence of landscaping and turf increases opportunity for water infiltration. Landscaped areas will be provided with drainage infrastructure where required under the City Plan.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
c. areas of pavement, turf and mulched garden beds are appropriately located and adequately drained.			
<p>PO15</p> <p>Landscaping works, design and materials used minimise maintenance costs and whole of life cycle costs.</p> <p>Note – Council may request a lifecycle cost analysis and maintenance cost plan for developments that create new public landscape embellishment to determine the appropriateness of landscaping treatment lifecycle costs to the community.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 to assist in demonstrating the outcome, including SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.</p>	Performance outcome	<p>Complies with PO15</p> <p>Landscaping is generally in accordance with the Development manual planning scheme policy no. SC6.4.12 to reduce maintenance and lifecycle costs.</p>
<p>PO16</p> <p>All turf areas on-site are accessible externally by standard lawn maintenance equipment and receive adequate sunlight for the turf species used.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 including SC6.4.12 Landscaping and Open Space to assist in demonstrating the outcome.</p>	Performance outcome	<p>Complies with PO16</p> <p>Turf areas will be accessible for maintenance.</p>
<p>PO17</p> <p>Drainage of podium planters allows for flush out in future and are adequately drained.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable</p> <p>No podium planting is proposed.</p>
<p>PO18</p> <p>Irrigation is installed within private and public spaces to ensure the long-term viability and integrity of landscaped areas. Where provided, irrigation is designed to facilitate the efficient supply of water in accordance with micro-climatic conditions.</p>	<p>AO18</p> <p>Irrigation is provided in accordance with the Development manual planning scheme policy no. SC6.4 including - SC6.4.12 Landscaping and Open Space.</p> <p>Note – Irrigation systems should be minimized where practical, such as in natural areas or areas where landscaping is likely to endure due to landform and microclimate, for example.</p>	Acceptable outcome	<p>Complies with PO18</p> <p>Irrigation will be provided in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>
<p>PO19</p> <p>Limited on-site maintenance is achieved for private and public landscaping, by selecting plant species having regard to long life expectancy and minimal</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO19</p> <p>Plant species have been selected for ease of maintenance. Refer to Appendix I for more information.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
leaf litter drop, pruning, watering and fertilising requirements.	Note – Applicants should refer to the Development manual planning scheme policy SC6.4.12 Landscaping and Open Space to assist in demonstrating the outcome.		
PO20 Container sizes and planting stock maturity is consistent with the intended role of the landscaping.	AO20 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.	Acceptable outcome	Complies with AO20 Landscaping will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.
PO21 Planting stocks are of a quality to ensure vigorous growth.	AO21 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Acceptable outcome	Complies with AO21 Landscaping will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.
PO22 Plants are protected and maintained to facilitate in-situ growth, vigour and quality form.	AO22 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Acceptable outcome	Complies with AO22 Landscaping will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.
PO23 Site preparation works ensure a stable and enhanced landscape form.	AO23 Landscaping is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space and SC6.4.12.6 Landscaping Construction Standards.	Acceptable outcome	Complies with AO23 Landscaping will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.
Sustainability			
PO24 Wherever possible, landscape design facilitates the retention of significant existing vegetation, both within and external to the site.	AO24.1 Site design integrates and incorporates retained and significant trees and vegetation within and external to the site.	N/A	Not applicable There is no existing significant vegetation within or external to the site.

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>AO24.2 Removed or damaged significant vegetation is replaced with mature vegetation of a comparable quantity and species.</p>	N/A	<p>Not applicable There is no existing significant vegetation within or external to the site.</p>
<p>PO25 Appropriate site planning and construction management is undertaken to ensure the longevity and health of retained and significant trees and vegetation.</p>	<p>AO25.1 Retained trees are protected by a tree protection zone (TPZ) and fenced along the canopy/drip line to comply with AS4970- 2009 Protection of Trees on Development Sites.</p>	N/A	<p>Not applicable There are no existing trees within the site to retain.</p>
	<p>AO25.2 Any required pruning or trimming work is undertaken in accordance with AS4373 — Pruning of Amenity Trees and is carried out by a qualified aborist.</p>	N/A	<p>Not applicable There is no existing vegetation within or external to the site which could be pruned or trimmed.</p>
	<p>AO25.3 Retained and significant vegetation damaged during development or construction is treated to repair any damage to the extent practicable by a qualified aborist.</p>	N/A	<p>Not applicable The site does not contain any significant vegetation.</p>
	<p>AO25.4 Protective measures and practices are employed for work adjacent to trees in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction management.</p>	N/A	<p>Not applicable There are no adjacent trees to consider within adjoining land.</p>
<p>PO26 Landscape design optimises water and energy efficiency and responds appropriately to local conditions, by:</p> <p>a. maximising the exposure to the prevailing summer breezes and the north-east winter morning sun;</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Performance outcome	<p>Complies with PO26 Landscaping is provided with a northern and eastern orientation, maximising access to sunlight and providing shade during summer months. Native species are utilised which are responsive to climatic conditions for the region.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>b. minimising exposure to the prevailing winter winds and western summer sun; and</p> <p>c. optimising shade to create useable and comfortable areas;</p> <p>d. hydro-zoning planting.</p>			
<p>PO27</p> <p>Planting bed profiles and edging encourage plant viability, reduce erosion, control weed invasion, provide adequate water infiltration and ease of maintenance to support long-term plant viability and vigorous growth.</p>	<p>AO27</p> <p>Planting beds are designed in accordance with the Development manual planning scheme policy no. 6.4 - SC6.4.12 Landscaping and Open Space.</p>	Acceptable outcome	<p>Complies with AO27</p> <p>Planting beds will be designed in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>
<p>PO28</p> <p>Landscape buffering and species selection is consistent and compatible with any ecological values on or adjoining the site.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	N/A	<p>Complies with PO28</p> <p>Adjoining sites are not yet developed, and thus there is no opportunity to reflect ecological values on adjoining site.</p> <p>Native species are utilised in the landscaping design. Consultation has been undertaken with Townsville City Council to confirm suitability of the chosen planting species.</p>
<p>PO29</p> <p>Landscaping elements are provided within parking areas, along driveways and internal roadways to provide adequate shading, and safe and legible parking areas.</p>	<p>AO29</p> <p>Landscaping is provided in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space.</p>	Acceptable outcome	<p>Complies with AO29</p> <p>Landscaping will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4.12, unless otherwise agreed upon with Townsville City Council.</p>
Sustainability			
<p>PO30</p> <p>Landscape design enhances community safety and reduces the potential for crime and antisocial behaviour.</p> <p>Note – Applicants may find useful guidance in the Queensland Government’s Crime</p>	<p>AO30.1</p> <p>Access to a site, parking area, buildings or public open space is well lit, free from obstructions and clearly defined by landscape treatments.</p>	Acceptable outcome	<p>Complies with AO30.1</p> <p>Outdoor lighting will be installed in accordance with the Townsville City Plan and Australian Standards.</p> <p>Landscaping assists in identifying access along the site frontage through breaks in planting in an otherwise landscaped frontage.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
Prevention through Environmental Design Guidelines for Queensland.	AO30.2 Trees with a minimum 1.8m of clear trunk (at maturity) are located along pathways, at building entries, within parking areas, on street corners, adjacent to street lighting and along driveways. Garden beds within the aforementioned areas consist of low shrubs and groundcovers that do not exceed 750mm in height.	Acceptable outcome	Complies with AO30.2 Trees will be provided in accordance with this outcome, unless otherwise agreed to with Council.
	AO30.3 Any solid wall or semi permeable fence is protected from graffiti through means of vertical landscaping or vandal resistant paint or artwork.	N/A	Not applicable No solid walls or semi-permeable fences are proposed.
PO31 Where appropriate and practicable, all elements of the landscape design are safe and provide accessibility for all abilities.	AO31.1 Paving material, tactile indicators and construction complies with AS1428 - Design for Access and Mobility.	Acceptable outcome	Complies with AO31.1 Paving materials will comply with AS1428.
	AO31.2 Pavement material or treatment clearly delineates between pedestrian and vehicular movement systems through contrasting materials, colours or level changes.	Acceptable outcome	Complies with AO31.2 Pavement will assist in distinguishing pedestrian and vehicle movement areas through colour and material differences.
	AO31.3 Hard landscaping materials are not highly reflective, or likely to create glare, slipperiness or other hazardous conditions.	Acceptable outcome	Complies with AO31.3 Hard landscaping materials will not be highly reflective, or likely to create glare, slipperiness or other hazardous conditions.

9.3.5 Transport Impact, Access and Parking Code

Performance outcomes	Acceptable outcomes	Solution	Comments
Transport Impact			
<p>Note – Applicants should note that the Department of Transport and Main Roads may have additional requirements.</p> <p>Note – Applicants should also note that a transport impact assessment may be required to demonstrate compliance with this code.</p>			
<p>PO1</p> <p>The development is located on roads that are appropriate for the nature of traffic generated, having regard to the safety and efficiency of the transport network, and the functions and characteristics identified of the road hierarchy.</p> <p>The road hierarchy is shown on Figure 9.5 — Road hierarchy existing and Figure 9.6 Road Hierarchy Future</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.5.2 Traffic Impact Assessment (TIA).</p>	<p>Performance outcome</p>	<p>Complies with PO1</p> <p>The development is taking place on a vacant parcel of land within a recently created industrial estate. The proposed industrial use of the site is consistent with the intent of the zoning and the recently constructed road network. It is not anticipated that the development will compromise the safety and efficiency of the road network. Notably, the subject site is located at the end of a cul-de-sac, minimising interaction with through traffic.</p>
<p>PO2</p> <p>Development does not compromise the orderly provision or upgrading of the transport network.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.5.2 Traffic Impact Assessment (TIA).</p>	<p>Performance outcome</p>	<p>Complies with PO2</p> <p>The development is taking place on a vacant parcel of land within a recently created industrial estate. No further upgrading of the road network is anticipated. Notably, the development is taking place at the end of a cul-de-sac.</p>
<p>PO3</p> <p>On-site transport network infrastructure (including roads, parking, access and public transport, pedestrian and cyclist facilities) appropriately integrates and connects with surrounding networks.</p> <p>Note – To demonstrate compliance with this performance outcome with regard to pedestrian and cyclist elements, applicants may be requested to provide a walk and cycle network plan to show connections to internal and external attractions, existing and</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.4 Active Transport Infrastructure, SC6.4.6.1 Geometric Road Designs, and SC6.4.5.1 Townsville Road Hierarchy.</p>	<p>N/A</p>	<p>Complies with PO3</p> <p>The development does not involve any on-site transport network infrastructure.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
proposed walk and cycle facilities and which respond to desire lines of all users.			
<p>PO4</p> <p>As far as practicable, development is designed to encourage travel by public transport, walking and cycling.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.4 Active Transport Infrastructure, SC6.4.6.1 Geometric Road Designs, and SC6.4.5.1 Townsville Road Hierarchy.</p>	Performance outcome	<p>Complies with PO4</p> <p>The development is taking place within an industrial estate created as part of a State Development Area. Whilst active transport is possible, it is not a practical means of transport given the location and use of the site. No public transport infrastructure is available to service the site.</p>
<p>Site Access</p> <p>Note – Local government (or other service owner) approval must be obtained before interfering with any infrastructure or undertaking works in the road reserve. In addition, be aware that the location of a driveway may be influenced by an approved plan of development that applies to the site or by the location of existing infrastructure or existing vehicle crossovers.</p>			
<p>PO5</p> <p>Access arrangements are appropriate for:</p> <ol style="list-style-type: none"> the capacity of the parking area; the volume, frequency and type of vehicle usage; the function and characteristics of the access road and adjoining road network; and the safety and efficiency of the road network. 	<p>AO5</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.1 Townsville Road Hierarchy and SC6.4.5.2 Traffic Impact Assessment (TIA).</p>	Acceptable outcome	<p>Complies with AO5</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>
<p>PO6</p> <p>Where practical, access for cyclists and pedestrians is clearly distinguished from vehicle access.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>	Performance outcome	<p>Complies with PO6</p> <p>The industrial location and nature of the site is such that pedestrian and cyclist access is not practical.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO7</p> <p>Access is located and designed to provide safe and easy access to the site, having regard to its position, width and gradient.</p>	<p>AO7</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessment (TIA) and SC6.4.5.1 Townsville Road Hierarchy.</p>	Acceptable outcome	<p>Complies with AO7</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings and SC6.4.5.4 Car Parking.</p>
<p>PO8</p> <p>All vehicles reasonably expected to use the site are able to travel the length of the driveway or driveway access without damage to vehicle or the driveway surface.</p>	<p>AO8</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>	Choose an Item	<p>Complies with AO8</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings.</p>
<p>PO9</p> <p>A driveway does not cause change in the level of a footpath that is unsafe or inaccessible for people with mobility difficulties.</p>	<p>AO9</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings.</p>	Choose an Item	<p>Complies with AO9</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways and SC6.4.3 Standard Drawings.</p>
<p>PO10</p> <p>Driveways are designed to withstand loadings from all vehicles reasonably expected to use the site.</p>	<p>AO10</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.</p>	Acceptable outcome	<p>Complies with AO10</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO11</p> <p>A driveway does not allow water to pond on adjacent properties or adjacent buildings and does not allow water to enter a building or property.</p>	<p>AO11</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.</p>	Acceptable outcome	<p>Complies with AO11</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways.</p>
<p>PO12</p> <p>Construction of a driveway does not damage or interfere with the location, function of or access to any services and infrastructure.</p>	<p>AO12</p> <p>Access is provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings.</p>	Acceptable outcome	<p>Complies with AO12</p> <p>Access will be provided in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings.</p>
<p>PO13</p> <p>All vehicles reasonably expected to access the site can safely manoeuvre to allow vehicles to exit and enter in a forward motion.</p>	<p>AO13</p> <p>Access is provided in accordance with the standards identified in Development manual planning scheme policy no. SC6.4 - SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings such that all vehicles reasonably expected to access the site, can exit and enter in a forward motion with no more than a three-point turn.</p>	Acceptable outcome	<p>Complies with AO13</p> <p>Access will be provided in accordance with the standards identified in Development manual planning scheme policy no. SC6.4 - SC6.4.5.5 Driveways, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking and SC6.4.3 Standard Drawings such that all vehicles reasonably expected to access the site, can exit and enter in a forward</p>
<p>Pedestrian and Cyclist Facilities</p>			
<p>PO14</p> <p>Provision is made for the safe and convenient movement of pedestrians on-site and connecting to the external network, having regard to desire lines, legibility, safety, topographical constraints, shading and other weather protection and equitable access arrangements.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.4 Active Transport Infrastructure, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.</p>	Performance outcome	<p>Complies with PO14</p> <p>The site layout includes delineated and marked internal pedestrian movement paths to ensure safe and convenient movement of pedestrians through the site.</p> <p>The external road network provides verges suitable for pedestrian use. However, the location and intended use of the site means that it is unlikely that proponents will access the site on foot. As development is taking place within a</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
			recently established industrial precinct, no practical opportunity exists to provide pedestrian infrastructure.
<p>PO15</p> <p>Provision is made for safe and convenient cycle movement to the site and within the site and connecting to the external network having regard to desire lines, users' needs, safety, topographical constraints and legibility.</p> <p><i>Note</i> – End of trip facilities will need to be provided for major development in accordance with the Queensland Development Code Mandatory Part 4.1 – Sustainable Buildings. 'Major development' is defined within MP4.1.</p>	<p>No acceptable outcome is nominated.</p> <p><i>Note</i> – Applicants should refer to the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.4 Active Transport Infrastructure, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.</p>	Performance outcome	<p>Complies with PO15</p> <p>The site layout includes delineated and marked internal cyclist movement paths to ensure safe and convenient movement of cyclists through the site.</p> <p>The external road network provides a carriageway suitable for cyclist use. However, the location and intended use of the site means that it is unlikely that proponents will access the site by bicycle. As development is taking place within a newly established industrial precinct, no practical opportunity exists to provide additional cyclist infrastructure.</p>
<p>PO16</p> <p>Parking areas, pathways and other elements of transport network infrastructure are designed to enhance public safety by discouraging crime and antisocial behaviour, having regard to:</p> <ol style="list-style-type: none"> provision of opportunities for casual surveillance; provision of lighting; the use of fencing to define public and private spaces, whilst allowing for appropriate sight lines; minimising potential concealment points and assault locations; minimising opportunities for graffiti and other vandalism; and restricting unlawful access to buildings and between buildings. 	<p>No acceptable outcome is nominated.</p> <p><i>Note</i> – Applicants should refer to the Development manual planning scheme policy no. SC6.4 — SC6.4.4 Active Transport Infrastructure, SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.1 Townsville Road Hierarchy, SC6.4.6.1 Geometric Road Design, SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural), SC6.4.14.3 Utility Services and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.</p>	Performance outcome	<p>Complies with PO16</p> <p>CPTED principles will be adopted within the proposed car parking and movement areas:</p> <ol style="list-style-type: none"> The building layouts provide good sight lines to maintain casual surveillance of vehicle parking and pedestrian movement areas, which are clearly delineated and marked. Lighting will be provided in accordance with the relevant Australian Standards. Fences will be utilised to delineate secure areas, public areas, and publicly accessible secure areas. Building placement and separation ensures concealment points and assault locations are minimised through good sight lines. Graffiti and vandalism can be cleaned, removed or repaired.

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>Note – Crime Prevention through Environmental Design Guidelines for Queensland prepared by the State Government may provide applicants with guidance on these matters.</p>			<p>f. Areas inaccessible to the public will be marked and can be locked when not in use to restrict unlawful access.</p>
<p>Parking</p>			
<p>PO17 Provision is made for on-site vehicle parking to:</p> <ul style="list-style-type: none"> a. meet the demand likely to be generated by the development; and b. avoid on street parking that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity. 	<p>AO17 Parking is provided in accordance with the standards identified in Parking rates planning scheme policy no. SC6.10.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.6.1 Geometric Road Design, and SC6.4.5.1 Townsville Road Hierarchy to assist in complying with this outcome.</p>	<p>Performance outcome</p>	<p>Complies with PO17 TCC Planning Scheme SC6.10 - Parking Rates indicate one (1) parking space per 80m² GFA (gross floor area) for research and technology industry uses. The calculated gross floor area for the proposed development is around 4,895m², across the various structures including the process building, main office, and OPS building. Consequently, a minimum of 62 parking spaces, including at least 1 designated for disabled parking, is required for strict compliance with Council's planning scheme and the specifications outlined in Table D3.5 of the National Construction Code (NCC) – Building Code of Australia (BCA_2019).</p> <p>Given the unique nature of the use and in particular, the high levels of automation and internalised storage of materials and equipment in the process building, it is proposed that the anticipated staffing levels for the facility in operation rather than a strict adherence to a GFA matched demand provides a more rational basis to calculate car parking demand.</p> <p>The end user has assumed an average of 25 people will be on site during campaigns (allowing for overlapping shifts). Campaigns are likely to be run intermittently, which means there will be times when parking demand at the facility will be less than when fully staffed.</p> <p>It is also relevant that the site will not be open to the public and therefore casual visitor parking</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
			<p>will not be a significant addition to the assumed parking demand.</p> <p>Given these considerations, 62 spaces would significantly exceed the parking demand likely to be generated by the use and is considered excessive and unnecessary. It is therefore proposed to make provision for 27 spaces (including one disabled space), which will provide sufficient on-site parking capacity to mitigate the risk of car parking overflow onto Penelope Road.</p> <p>Nominated hardstand areas have been identified which can act as a spillover area should additional parking be temporarily required.</p>
<p>PO18</p> <p>Parking ensures access is provided for people with disabilities.</p>	<p>AO18</p> <p>Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — SC6.4.5.4 Car Parking.</p>	Acceptable outcome	<p>Complies with AO18</p> <p>Car parking will be designed in accordance with AS2890, as referenced within planning scheme policy no. SC6.4.</p>
<p>PO19</p> <p>Where the nature of the proposed development creates a demand, provision is made for set-down and pick-up facilities by bus, taxis or private vehicle, which:</p> <ul style="list-style-type: none"> a. are safe for pedestrians and vehicles; b. are conveniently connected to the main component of the development by pedestrian pathway; and c. provide for pedestrian priority and clear sight lines. 	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.6.1 Geometric Road Design, SC6.4.5.1 Townsville Road Hierarchy and SC6.4.12 Landscaping and Open Space to assist in complying with this outcome.</p>	N/A	<p>Not applicable</p> <p>The proposed use does not create a demand for set-down or pick-up facilities for bus, taxi or private vehicles.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO20</p> <p>Parking and servicing areas are designed to:</p> <ul style="list-style-type: none"> a. be clearly defined, marked and signed; b. be convenient and accessible; c. minimise large unbroken areas of hardstand to the extent practicable; d. be safe for vehicles, pedestrians and cyclists; e. provide shading; f. be located to encourage multi-purpose trip ends and minimise vehicle movements within the site; and g. minimise any adverse impacts on the amenity of surrounding land. 	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.5.3 Public Transport Facilities, SC6.4.5.4 Car Parking, SC6.4.5.5 Driveways, SC6.4.5.2 Traffic Impact Assessments (TIA), SC6.4.6.1 Geometric Road Design, and SC6.4.12 Landscaping and Open Space.</p>	<p>Performance outcome</p>	<p>Complies with PO20</p> <p>Parking and servicing areas:</p> <ul style="list-style-type: none"> a. are clearly defined, marked, and signed in accordance with AS2890. b. are accessible from Penelope Road through crossovers constructed in accordance with the relevant Australian Standards and planning scheme policies. c. car parking and servicing areas are broken up by building placement, landscaping and other infrastructure. d. provide safe movement for pedestrians, vehicles and cyclists by being designed in accordance with AS2890. e. including landscape planting and shade trees. f. provide no opportunity for multi-purpose trip ends, due to the vehicle dependent location of the site. Heavy vehicle movement is one-way to avoid internal conflicts. Furthermore, private vehicle parking is designed in accordance with the relevant Australian Standards, permitting conflict free traffic flow. g. are oriented to the street frontage and away from surrounding sensitive uses to minimise amenity impacts to surrounding land.
<p>PO21</p> <p>Vehicle spaces have adequate dimensions to meet user requirements.</p>	<p>AO21</p> <p>Parking areas are designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 — Facilities and SC6.4.5.4 Car Parking.</p>	<p>Acceptable outcome</p>	<p>Complies with AO21</p> <p>Car parking areas will be designed in accordance with AS2890, as referenced in planning scheme policy no. SC6.4.</p>
<p>PO22</p> <p>Pavement is constructed to an appropriate standard.</p>	<p>No acceptable outcome is nominated.</p>	<p>Performance outcome</p>	<p>Complies with PO22</p> <p>Pavement will be constructed to a standard appropriate for the intended use of the site.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO23 Parking and servicing areas are kept accessible and available for use as a parking area at all times during the normal business hours of the activity.</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO23 Parking and servicing areas will be kept accessible and available for use as a parking area at all times during the normal business hours of the activity.</p>
<p>PO24 Visitor parking for accommodation activities remains accessible and useable to visitors at all times.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development is for a research and technology industry use and does not involve an accommodation activity.</p>
<p>PO25 Multi-level parking areas are designed, articulated and finished to make a positive contribution to the local external streetscape character, as well as the internal user experience of the facility ensuring way finding technologies and aesthetic treatments are provided.</p>	No acceptable outcome is nominated.	N/A	<p>Not applicable The development does not involve a multi-level parking area.</p>
Servicing			
<p>PO26 Provision is made for the on-site loading, unloading, manoeuvring and access by service vehicles that:</p> <ul style="list-style-type: none"> h. are adequate to meet the demands generated by the development; i. are able to accommodate the design service vehicle requirements; and j. does not unduly impede vehicular, cyclist and pedestrian safety and convenience both within the site and external to the site. 	<p>AO26 Servicing areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>	Acceptable outcome	<p>Complies with AO26 Servicing areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>

9.3.5 Transport Impact, Access & Parking Codes

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO27 Refuse collection vehicles are able to safely access on-site refuse collection facilities.</p>	<p>AO27 Refuse collection areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4 – SC6.4.22 Waste Management, SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>	<p>Acceptable outcome</p>	<p>Complies with AO27 Refuse collection areas are provided and designed in accordance with the standards identified in the Development manual planning scheme policy no. SC6.4.</p>
<p>PO28 Servicing arrangements minimise any adverse impact on the amenity of premises in the vicinity, having regard to operating hours, noise generation, proximity to sensitive uses, odour generation and dust.</p>	<p>No acceptable outcome is nominated.</p>	<p>Performance outcome</p>	<p>Complies with PO28 Noise and air quality assessments have been prepared which have determined that adverse impacts on nearby sensitive uses can be mitigated. Notably, these assessments consider impacts during daylight and nighttime hours, demonstrating that adverse impacts can be mitigated during 24 hour operation periods.</p>

9.3.6 Works Code

Performance outcomes	Acceptable outcomes	Solution	Comments
Access and Parking			
<p>PO1 Access arrangements are appropriate for:</p> <ul style="list-style-type: none"> a. the capacity of the parking area; b. the volume, frequency and type of vehicle usage; and c. the function and characteristics of the access road and adjoining road network. 	<p>AO1.1 Access is provided in accordance with Australian Standard AS2890.1.</p>	Acceptable outcome	<p>Complies with AO1.1 Access is provided in accordance with Australian Standard AS2890.1.</p>
<p>PO2 Provision is made for on—site vehicle parking to meet the demand likely to be generated by the development and to avoid on street parking where that would adversely impact on the safety or capacity of the road network or unduly impact on local amenity.</p>	<p>AO2.1 Parking is provided at the rates set out in Parking rates planning scheme policy no. SC6.10. OR AO2.2 Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing number of on-site parking is retained or increased.</p>	Performance outcome	<p>Complies with PO2 TCC Planning Scheme SC6.10 - Parking Rates indicate one (1) parking space per 80m² GFA (gross floor area) for research and technology industry uses. The calculated gross floor area for the proposed development is around 4,895m², across the various structures including the process building, main office, OPS building, and laboratory. Consequently, a minimum of 62 parking spaces, including at least 1 designated for disabled parking, is required for strict compliance with Council’s planning scheme and the specifications outlined in Table D3.5 of the National Construction Code (NCC) – Building Code of Australia (BCA_2019). Given the unique nature of the use and in particular, the high levels of automation and internalised storage of materials and equipment in the process building, it is proposed that the anticipated staffing levels for the facility in operation rather than a strict adherence to a GFA matched demand provides a more rational basis to calculate car parking demand.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
			<p>The end user has assumed an average of 25 people will be on site during campaigns (allowing for overlapping shifts). Campaigns are likely to be run intermittently, which means there will be times when parking demand at the facility will be less than when fully staffed.</p> <p>It is also relevant that the site will not be open to the public and therefore casual visitor parking will not be a significant addition to the assumed parking demand.</p> <p>Given these considerations, 62 spaces would significantly exceed the parking demand likely to be generated by the use and is considered excessive and unnecessary. It is therefore proposed to make provision for 27 spaces (including one disabled space), which will provide sufficient on-site parking capacity to mitigate the risk of car parking overflow onto Penelope Road.</p> <p>Nominated hardstand areas have been identified which can be utilised for overflow parking where additional temporary parking is required.</p>
<p>PO3</p> <p>Parking areas are designed to:</p> <ul style="list-style-type: none"> a. be clearly defined, marked and signed; b. be convenient and accessible; c. be safe for vehicles, pedestrians and cyclists; and d. provide spaces which meet the needs of people with disabilities. 	<p>AO3.1</p> <p>Parking areas are designed in accordance with Australian Standard AS2890.1.</p> <p>OR</p> <p>AO3.2</p> <p>Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing standard of on-site parking is maintained or improved.</p>	<p>Acceptable outcome</p> <hr/> <p>N/A</p>	<p>Complies with AO3.1</p> <p>Parking areas are designed in accordance with Australian Standard AS2890.1.</p> <hr/> <p>Not applicable</p> <p>Compliance with AO3.1 is achieved.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO4 Landscaping is provided to soften the visual impact of parking areas and to provide shading.</p>	<p>AO4.1 Shade trees within parking areas are provided at the following rate: a. in single sided, angle or parallel bays - 1 tree per 3 parking spaces; and b. in double sided, angle or parallel bays - 1 tree per 6 parking spaces. Note – The Development manual planning scheme policy no. SC6.4 - SC6.4.12 Landscaping and Open Space sets out guidance on tree species and planting standards. OR AO4.2 Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing standard of landscaping is maintained or improved.</p>	Performance outcome	<p>Complies with PO4 Car park planting is provided incorporating species selected in accordance with the Development manual planning scheme policy no. SC6.4.12</p>
		N/A	<p>Not applicable The site does not currently contain an existing lawful premises.</p>
<p>PO5 Provision is made for the onsite loading, unloading, manoeuvring and access by service vehicles that: a. is adequate to meet the demands generated by the development; b. is able to accommodate the design service vehicle requirements; c. is wholly contained within the site; and d. does not unduly impede vehicular, cyclist and pedestrian safety and convenience within the site.</p>	<p>AO5.1 Servicing areas are provided and designed in accordance with Australian Standard AS2890.2. OR AO5.2 Where an existing lawful premises and involves not more than 5% or 50m² (whichever is the greater) of additional gross floor area, the existing provision for service vehicles is maintained or improved.</p>	Acceptable outcome	<p>Complies with AO5.1 Servicing areas are provided and designed in accordance with AS2890.2.</p>
		N/A	<p>Not applicable The site does not currently contain an existing lawful premises.</p>
<p>Service and Utilities</p>			
<p>PO6 A potable water supply is provided that is adequate for the needs of the intended use.</p>	<p>AO6.1 The development is connected to council's reticulated water supply system in accordance with the Development manual planning scheme</p>	Acceptable outcome	<p>Complies with AO6.1 The proposal will be connected to Council's reticulated water supply system in accordance with Planning Scheme Policy no. SC6.4.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	<p>policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.</p> <p>Note – If a main exists, then an application for a water meter will be required.</p>		
	<p>AO6.2</p> <p>Water supply systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.</p>	Acceptable outcome	Complies with AO6.2 Water supply systems and connections will be designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines and SC6.4.3 Standard Drawings.
<p>PO7</p> <p>Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids environmental harm.</p>	<p>AO7.1</p> <p>The development is connected to council’s reticulated sewerage system via an existing sewer connection to the site.</p>	Acceptable outcome	Complies with AO7.1 The development will be connected to Council reticulated sewerage system.
	<p>AO7.2</p> <p>Waste water systems and connections are designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.4 Sewerage Planning and Design Guidelines and SC6.4.3 Standard Drawings.</p>	Acceptable outcome	Complies with AO7.2 Waste water systems and connections will be designed and constructed in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.4 Sewerage Planning and Design Guidelines and SC6.4.3 Standard Drawings.
<p>PO8</p> <p>Provision is made for waste management that is appropriate to the use, protects the health and safety of people and the environment.</p> <p>Note – Applicants should also be aware that any provision for disposal of any trade waste is to be made in accordance council’s Trade Waste Policy supporting the Water Act 2000, Plumbing and Drainage Act 2002 and the Standard Plumbing Regulation 2003</p>	<p>AO8.1</p> <p>The development provides a bin container storage area that has an imperviously sealed pad and is screened to the height of the bins.</p>	Acceptable outcome	Complies with AO8.1 Bin storage will be on an imperviously sealed pad and screened. A Waste Management Plan has been prepared (refer to Appendix J).
	<p>AO8.2</p> <p>On sites in an industrial zone that are greater than 2,000m² in area, provision is made for refuse collection vehicles to access the collection area, undertake the collection activity</p>	Acceptable outcome	Complies with AO8.2 Refuse collection vehicles can enter and exit the site in a forward gear. Refuse collection will take place within the site. A Waste Management Plan has been prepared (refer to Appendix J).

Performance outcomes	Acceptable outcomes	Solution	Comments
	and to enter and leave the site in a forward direction without having to make more than a 3-point turn.		
<p>PO9</p> <p>The proposed stormwater management system or site works does not adversely affect flooding or drainage characteristics of properties that are upstream, downstream or adjacent to the development site.</p>	<p>AO9.1</p> <p>The development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.</p>	Acceptable outcome	<p>Complies with AO9.1</p> <p>The subject site has been filled and levelled as part of a previous industrial subdivision. Therefore, the site achieves flood immunity. A site-based stormwater management plan has been prepared (refer to Appendix H) demonstrating that the development will not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.</p>
	<p>AO9.2</p> <p>Roof and surface water is conveyed to the kerb and channel or an inter-allotment drainage system in accordance with Australian Standard AS/NZS3500.3:2003.</p>	Acceptable outcome	<p>Complies with AO9.2</p> <p>Stormwater will be discharged to existing open drains established during the previous industrial subdivision. A site based stormwater management plan has been prepared (refer to Appendix H) demonstrating how a lawful point of discharge will be obtained.</p>
<p>PO10</p> <p>The drainage network has sufficient capacity to safely convey stormwater run-off from the site and development does not cause a drainage nuisance to a downstream or adjoining property.</p>	<p>AO10</p> <p>Post development discharge of stormwater from the subject land does not exceed predevelopment peak flows and no change to flows across a downstream or adjoining property is created.</p>	Acceptable outcome	<p>Complies with AO10</p> <p>Stormwater discharge from the site is consistent with anticipated flows modelled during the previous industrial subdivision. Therefore, no additional quantity mitigation is required. Refer to Appendix H for additional information.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
Services and Utilities			
<p>PO11 A potable water supply is provided that is adequate for the needs of the intended use.</p>	<p>AO11.1 Where within an area designated for urban or rural residential development, the development is connected to council’s reticulated water supply system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines. OR</p>	Acceptable outcome	<p>Complies with AO11.1 The development will be connected to Council’s reticulated water supply in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines.</p>
	<p>AO11.2 Otherwise, the development is provided with an on-site water supply in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.7 On-Site Water Supply.</p>	N/A	<p>Not applicable Compliance with AO11.1 is achieved.</p>
	<p>AO11.3 Water supply systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water Supply Construction and SC6.4.3 Standard Drawings.</p>	Acceptable outcome	<p>Complies with AO11.3 Water connections will be designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water Supply Construction and SC6.4.3 Standard Drawings.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO12 Wastewater treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids adverse impacts on environmental values.</p>	<p>AO12.1 Where within an area designated for urban development, the development is connected to the council’s reticulated sewerage system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines.</p> <p>OR</p>	Acceptable outcome	<p>Complies with AO12.1 The development will be connected to the council’s reticulated sewerage system in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.2 Water Supply Planning and Design Guidelines.</p>
	<p>AO12.2 Otherwise, on-site waste water treatment and disposal is provided which complies with the Development manual planning scheme policy no. SC6.4 - SC6.4.11.8 On-Site Sewerage Facilities.</p>	N/A	<p>Not applicable Compliance with AO12.1 is achieved.</p>
	<p>AO12.3 Waste water systems and connections are designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4-SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water and Sewerage Infrastructure, SC6.4.11.5 Sewerage System Constructions and SC6.4.3 Standard Drawings.</p>	Acceptable outcome	<p>Complies with AO12.3 Waste water connections will be designed and constructed in accordance with the Development manual planning scheme policy no. SC6.4-SC6.4.11.2 Water Supply Planning and Design Guidelines, SC6.4.11.3 Water and Sewerage Infrastructure, SC6.4.11.5 Sewerage System Constructions and SC6.4.3 Standard Drawings.</p>
<p>PO13 The design and management of the development integrates water cycle elements having regard to:</p> <ul style="list-style-type: none"> a. reducing potable water demand; b. minimising wastewater production; c. minimising stormwater peak discharges and run-off volumes; d. maintaining natural drainage lines and hydrological regimes as far as possible; 	<p>AO13 Integrated water management practices and infrastructure are implemented in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.10 Stormwater Quality and SC6.4.10.2 Water Sensitive Urban Design.</p>	Acceptable outcome	<p>Complies with AO13 Where possible and practical, Integrated water management practices and infrastructure will be implemented in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.10 Stormwater Quality and SC6.4.10.2 Water Sensitive Urban Design.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>e. reusing stormwater and greywater is encouraged where public safety and amenity will not be compromised; and</p> <p>f. efficient use of water.</p>			
<p>PO14</p> <p>The development is provided with an adequate energy supply which maintains acceptable standards of public health, safety, environmental quality and amenity.</p>	<p>AO14</p> <p>For other than the Rural zone, premises are serviced by:</p> <ol style="list-style-type: none"> a. an underground electricity supply approved by the relevant energy authority; or b. an overhead supply approved by the relevant energy authority where in the Rural residential zone, Special purpose zone or High impact industry zone or where on a lot of less than 2,500m² within an area where the existing supply is overhead. <p>Note – Applicants should also have regard to the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services.</p>	<p>Acceptable outcome</p>	<p>Complies with AO14</p> <p>The site is serviced by underground electricity supply.</p>
<p>PO15</p> <p>Premises are connected to a telecommunications service approved by the relevant authority.</p>	<p>AO15</p> <p>The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.</p> <p>Note – The Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services provides additional information regarding the supply of telecommunications.</p>	<p>Acceptable outcome</p>	<p>Complies with AO15</p> <p>The development will be connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO16 Provision is made for future telecommunications services (for example fibre optic cable).</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO16 The development is being undertaken within a recently established industrial subdivision. It is anticipated that sufficient telecommunications infrastructure exists.</p>
<p>PO17 Where available, provision is made for reticulated gas.</p>	<p>AO17 Design and provision of reticulated gas is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural) and SC6.4.14.3 Utility Services.</p> <p>Note – Applicants should also have regard to the metering requirements of other relevant authorities.</p>	N/A	<p>Not applicable The development does not require servicing by reticulated gas.</p>
<p>PO18 Adequate access is provided to public services and utilities for future maintenance.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – The Development manual planning scheme policy no. SC6.4 provides additional information and requirements for applicants, including when council will require easements over public services and utilities.</p>	Performance outcome	<p>Complies with PO18 The proposed development will not compromise access to public services or utilities for future maintenance.</p>

Earthworks

Note – Applicants should be aware that some retaining walls constitute building works that are assessable under the *Building Regulation 2006*. No approval is required under the *Building Regulation 2006* for retaining walls if:

- a. there is no surcharge loading; and
- b. the height of wall or height of fill or excavation is not more than 1m; and
- c. the wall is no closer than 1.5m to a building, structure (e.g. a swimming pool) or other retaining wall. In these cases, the “applicable code” for the purposes of the Act is the Building Code of Australia (refer to BCA Volume 2, Part 3.1.1). Retaining walls not more than 1m in height may be constructed in accordance with an accepted industry standard publication (e.g. timber, concrete masonry or similar).

Note – Applicants should note that council may request the submission of an engineering report undertaken by suitably qualified engineer to demonstrate compliance with the performance outcomes, particularly where alternative solutions are proposed

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO19 Filling and excavation does not result in contamination of land or pose a health and safety risk.</p>	<p>AO19 Filling and excavation does not: a. use contaminated materials as fill; b. excavate contaminated material; and c. use waste material as fill. Note – Applicants should refer to the Development manual planning scheme policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.</p>	Acceptable outcome	Complies with AO19 Where filling or excavation is undertaken, it will not involve the movement of contaminated materials or utilise waste for fill.
<p>PO20 Earthworks result in stable landforms and structures.</p>	<p>AO20 Earthworks and the construction of retaining walls and batters are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	Complies with AO20 Where earthworks or the construction of retaining walls or batters are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.
<p>PO21 Earthworks are undertaken in a manner that: a. maintains natural landforms as far as possible; and b. minimises height of retaining walls and batter faces.</p>	<p>AO21.1 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	Complies with AO21.1 Where earthworks are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.
	<p>AO21.2 Retaining walls are designed and constructed: a. certified as stable by a Registered Professional Engineer of Queensland; and b. have a combined height of retaining wall and fence of not more than 2 metres.</p>	Acceptable outcome	Complies with AO21.2 Where retaining walls are constructed, they will be certified as stable by an RPEQ. No retaining walls greater than 2m are proposed.
<p>PO22 Earthworks do not unduly impact on amenity or privacy for occupants of the site or on adjoining land.</p>	No acceptable outcome is nominated.	N/A	Not applicable The development is not taking place adjoining residential uses. Furthermore, no residential uses are proposed.

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO23 Earthworks do not cause environmental harm.</p>	No acceptable outcome is nominated.	Performance outcome	<p>Complies with PO23 Any earthworks will occur within an existing cleared and levelled area created as part of a previous industrial subdivision approval. There are no environmental values on the site and thus no environmental harm is anticipated.</p>
<p>PO24 Filling or excavation does not worsen any flooding or drainage problems on the site or on neighbouring properties.</p>	<p>AO24 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	<p>Complies with AO24 Where earthworks are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>
<p>PO25 Any structure used to restrain fill or excavation does not worsen drainage problems or cause surface water to be a nuisance to neighbouring properties.</p>	<p>AO25 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	<p>Complies with AO25 Where earthworks are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>
<p>PO26 Filling or excavation does not adversely affect sewer, stormwater or water utility infrastructure or access to them for maintenance purposes.</p>	<p>AO26 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	<p>Complies with AO26 Where earthworks are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>
<p>PO27 Filling or excavation does not prevent or create difficult access to any property.</p>	<p>AO27 Earthworks are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>	Acceptable outcome	<p>Complies with AO27 Where earthworks are undertaken, they will be done so in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.7.3 Earthworks Design and SC6.4.7.4 Earthworks Construction.</p>
<p>PO28 Earthworks do not cause significant impacts through truck movements, dust or noise on the</p>	<p>AO28 Earthworks are undertaken in accordance with the Development manual planning scheme</p>	Acceptable outcome	<p>Complies with AO28 Where earthworks are undertaken, they will be done so in accordance with the Development</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
amenity of the locality in which the works are undertaken or along routes taken to transport the material and the transportation of materials minimises adverse impacts on the road network.	policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.		manual planning scheme policy no. SC6.4 - SC6.4.7.4 Earthworks Construction and SC6.4.23.1 Construction Management.
Movement Networks			
<p>PO29</p> <p>The following are provided along the full extent of the road frontage and to a standard that is appropriate to the function of the road or street and the character of the locality:</p> <ul style="list-style-type: none"> a. paved roadway; b. appropriate pavement edging (including kerb and channel); c. pedestrian paths and cycleways; d. streetscaping and street tree planting; e. stormwater drainage; f. street lighting systems; and g. conduits to facilitate the provision of and other utility services. 	<p>AO29</p> <p>Design and construction of external road works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4.</p> <p>Note – Applicants should have regard to the following sub-sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural); SC6.4.14.3 Utility Services; SC6.4.8 Stormwater Management; SC6.4.9 Stormwater Quantity; SC6.4.10 Stormwater Quality; SC6.4.6.2 Pavement Design & Seal Design; SC6.4.4 Active Transport Infrastructure; SC6.4.12 Landscaping and Open Space; SC6.4.6.1 Geometric Road Design; SC6.4.20.1 Footpath Treatment Policy; and SC6.4.23 Construction Management, Quality Management, Inspection and Testing.</p>	N/A	<p>Not applicable</p> <p>No external road works are proposed. The development is within an existing industrial estate.</p>
<p>PO30</p> <p>Provision is made in the road reserve for streetscaping, pedestrians and cyclists in a manner consistent with:</p> <ul style="list-style-type: none"> a. the current and projected level of usage; b. the desired streetscape character; and c. activities which are anticipated to occur within the verge. 	<p>AO30</p> <p>Streetscaping works, footpaths and cycle paths are provided in accordance with Development manual planning scheme policy no. SC6.4.</p> <p>Note – Applicants should have regard to the following sub-sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.20.1 Footpath Treatment Policy; SC6.4.6.1 Geometric Road Design; SC6.4.5.1 Townsville Road</p>	N/A	<p>Not applicable</p> <p>No streetscape works are proposed. The development is within an existing industrial estate.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
	Hierarchy; SC6.4.4 Active Transport Infrastructure; SC6.4.12 Landscaping and Open Space; SC6.4.14.2 Public Lighting (Urban, Urban Residential and Rural); and SC6.4.14.3 Utility Services in demonstrating compliance.		
<p>PO31</p> <p>Parking areas are designed and constructed in a manner that is sufficiently durable for the intended function, maintains all weather access and ensures the safe passage of vehicles, pedestrians and cyclists.</p>	<p>AO31</p> <p>Parking area design and construction is undertaken in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.5.3 Public Transport Facilities and SC6.4.5.4 Car Parking.</p>	Acceptable outcome	<p>Complies with AO31</p> <p>Parking areas are designed in accordance with AS2890, which is a referenced document within Planning Scheme Policy no. SC6.4.</p>
<p>PO32</p> <p>Movement networks can be easily and efficiently maintained.</p>	<p>AO32</p> <p>Infrastructure is provided in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.6.1 Geometric Road Design, SC6.4.5.1 Townsville Road Hierarchy and SC6.4.5.2 Traffic Impact Assessment (TIA).</p>	N/A	<p>Not applicable</p> <p>No changes to the movement network are proposed. The development is within an existing industrial estate.</p>
Waste Management			
<p>PO33</p> <p>Development provides adequate waste management facilities on site for the storage of waste and recyclable material in a manner which:</p> <ol style="list-style-type: none"> is of adequate size to accommodate the expected amount of refuse to be generated by the use; is in a position that is conveniently accessible for collection at all times; is able to be kept in a clean, safe and hygienic state at all times; and 	<p>AO33</p> <p>Waste management facilities are provided in accordance with the Development manual planning scheme policy no. SC6.4 — SC6.4.22 Waste Management.</p> <p>Note – Applicants may be requested to prepare a Waste management plan in accordance with the Development manual planning scheme policy no. SC6.4-SC6.4.22 Waste Management.</p>	Performance outcome	<p>Complies with PO33</p> <p>The QRCUF requires a bespoke waste servicing arrangement which has been detailed within a Waste Management Plan prepared for the proposal (Appendix J).</p> <p>The waste management plan confirms:</p> <ol style="list-style-type: none"> sufficient refuse storage capacity is provided to accommodate the planned waste generation and collection schedule. refuse is conveniently accessible through designated collection zones.

Performance outcomes	Acceptable outcomes	Solution	Comments
d. minimises the potential for environmental harm, environmental nuisance and adverse amenity impacts.			<p>c. refuse is stored within clean, designated areas.</p> <p>d. the storage method and location for refuse contains waste to ensure no environmental harm or nuisance, or adverse amenity impacts.</p>
Construction Management			
<p>PO34</p> <p>Work is undertaken in a manner which does not cause unacceptable impacts on surrounding areas as a result of dust, odour, noise or lighting.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.</p>	Performance outcome	<p>Complies with PO34</p> <p>It is anticipated that air and noise impacts will be mitigated during construction through the preparation and implementation of a construction management plan.</p> <p>Lighting will be implemented in accordance with the relevant Australian Standards.</p>
<p>PO35</p> <p>While undertaking development works, the site and adjoining road are maintained in a tidy, safe and hygienic manner.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.</p>	Performance outcome	<p>Complies with PO35</p> <p>It is anticipated that the site and adjoining road will be maintained in a tidy, safe and hygienic manner during development works.</p>
<p>PO36</p> <p>Traffic and parking generated during construction are managed to minimise impact on the amenity of the surrounding area.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome.</p>	Performance outcome	<p>Complies with PO36</p> <p>It is anticipated that traffic and parking generated during construction will be managed to minimise impact on the amenity of the surrounding area. We highlight that development is occurring within an established industrial estate.</p>
<p>PO37</p> <p>Council’s infrastructure is not damaged by construction activities.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should refer to the Development manual planning scheme policy no.SC6.4 for assistance in complying with this outcome</p>	Performance outcome	<p>Complies with PO37</p> <p>It is anticipated that Council’s infrastructure will not be damaged by construction activities.</p>

Performance outcomes	Acceptable outcomes	Solution	Comments
<p>PO38 The integrity of new infrastructure is maintained.</p>	<p>No acceptable outcome is nominated.</p> <p>Note – Applicants should have regard to the following sections of the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management; and SC6.4.24 Acceptance of Completed Works in demonstrating compliance.</p>	Performance outcome	<p>Complies with PO38</p> <p>It is anticipated that any new infrastructure will be constructed in accordance with relevant policies and standards to ensure that the integrity of the infrastructure is maintained.</p>
<p>PO39 Construction activities and works are carried out in a manner which avoids damage to the environment, retained vegetation and impacts on fauna.</p>	<p>AO39 Construction activities and works are undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management.</p>	Acceptable outcome	<p>Complies with AO39</p> <p>It is anticipated that construction activities and works will be undertaken in accordance with the Development manual planning scheme policy no. SC6.4 - SC6.4.23.1 Construction Management.</p>
<p>PO40 Vegetation cleared from a site is disposed of in a manner that maximises reuse and recycling and minimises impacts on public health and safety.</p>	<p>AO40 Construction activities and works are carried out in accordance with Development manual planning scheme policy no. SC6.4 - SC6.4.7.1 Clearing and Grubbing.</p> <p>Note – Applicants shall also refer to Development manual planning scheme policy no. SC6.4 for assistance in complying with this outcome.</p>	N/A	<p>Not applicable</p> <p>The site is currently clear of vegetation.</p>