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9.4.4 Landscaping Code

9.4.4.3 Assessment Benchmarks

Table 9.4.4.3.1— Criteria for Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
Retention of Trees			
PO1 Landscaping: 1. is sensitive to existing site conditions, topography and scenic and landscape characteristics; 2. as far as practicable, retains existing vegetation of ecological value; and 3. protects and enhances the existing character and amenity of the site, street and surrounding area.	**AO1** Development; 1. ensures the retention of existing trees where practicable; and 2. ensures: a. retained planting is protected in accordance with AS 4970 2009 - Protection of Trees on Development sites; or b. that where significant trees and vegetation cannot practicably be retained, mature vegetation of the same or similar species is provided elsewhere on the development site.	**Complies.** The clearing of vegetation will be minimised. Trees removed will be compensated with the planting of a significant number of native trees and shrubs. Refer to the Landscape Plan by Studio 8..	
Preferred Species			
PO2	**AO2**		

Landscaping: 1. predominately uses native species suitable to the location of the development; and 2. avoids the introduction or spread of weed species and pests.	Development ensures that: 1. at least 50% of trees are species selected from **Planning Scheme Policy 2 - Landscape Design - Part 4 Preferred Landscape Species**; and 2. plants listed in the Biosecurity Act 2014 are not used.	**Complies.** Landscaping will be provided along the frontage boundaries as shown on Landscape Plan. Appropriate species will be used and can be conditioned accordingly.	
Landscaping - where not otherwise specified			
PO3 Development, where no specific landscape requirements are stated in this Code, incorporates landscaping designed to: 1. enhance and soften the visual and built form attributes of a development; 2. complement the existing design and character of landscaping on adjacent sites; 3. integrate the development with its surroundings; and 4. reflect the landscape character of the locality.	**AO3** Development incorporates aesthetic landscaping which meets the standards in **Planning Scheme Policy 2 - Landscape Design**.	**Complies**. Low maintenance landscaping will be established as shown on the landscape plan. This will enhance the aesthetics of the development.	
Climate Control and Energy Efficiency			
PO4 Development provides landscaping that assists in passive solar access, the provision of shade, microclimate management and energy conservation.	**AO4** Climate control and energy efficient design meets the standards in **Planning Scheme Policy 2 - Landscape Design**.	**Complies**.	
Protection of Buildings and Infrastructure			
PO5 Development ensures that the location and	**AO5.1** Planting is not undertaken within a public	**Not applicable.**	

type of planting does not have an adverse effect on building foundations or infrastructure such as overhead and underground utility services.	utility easement or within 3 metres of overhead or underground utility services.	**Complies.**	
	AO5.2 Plant species will not damage building foundations or overhead and underground utility services.		
	AO5.3 Vegetation used in landscaping adjacent to substations, or adjacent to an electricity easement uses species which will be less than 4 metres in height at maturity, and will not encroach within 3 metres of a substation boundary.	**Not applicable.**	
Landscape Bonds			
PO6 Development ensures the timely and proper performance and maintenance of landscape works.	**AO6** Development provides a bond equivalent to: 1. the cost of proposed landscape works; and 2. maintenance works required until landscape plantings are established. ***Note** - A bond may be provided in stages in line with identified stages of development.* ***Note** - Bonding would not generally be required for minor landscaping.*	**Not applicable**.	
Aesthetic Landscaping			
PO7 Development in the: 1. Community Facilities Zone; 2. District Centre Zone; 3. Industry Zone; 4. Local Centre Zone;	**AO7** An aesthetic landscape strip is provided being: 1. a minimum width of: a. 2 metres where located in the Industry Zone, Mixed Use Zone	**Not applicable.**	

5. Major Centre Zone; 6. Minor Tourism Zone; 7. Mixed Use Zone (Commercial/Industrial Precinct); and 8. Township Zone (Where no precinct applies);provide aesthetic landscaping to: a. enhance and soften the built form; b. enhance the streetscape character; c. contribute to attractive streets; and d. be consistent with the local character having regard to the zone in which the site is located. ***Note** - this outcome does not apply where buildings are not set back from the street or a public space boundary*	(Commercial/Industrial Precinct) or Community Facilities Zone; and b. 1 metre where located in any other listed Zone; and 2. within the site boundaries adjacent to all street and public place boundaries; and 3. designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design**.		
Buffer Landscaping			
PO8 Buffer landscaping within the following zones is designed to minimise impacts on land in an adjoining residential zone having regard to visual amenity and privacy: 1. Community Facilities Zone; 2. District Centre Zone; 3. Local Centre Zone; 4. Major Centre Zone; and 5. Minor Tourism Zone.	**AO8** On all common boundaries with land in a residential zone, development provides: 1. buffer landscaping with a minimum width of 2 metres designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design**; or 2. a solid screen fence 1.8m high. ***Note:** In areas of MLES or MSES, fencing or buffer landscaping is designed to be wildlife-friendly.*	**Not applicable**.	
Screen Landscaping			

PO9 Screen landscaping that screens the development from a residential zone, and maintains visual amenity and privacy, is provided to all development within the following zones: 1. Industry Zone; 2. Low Density Residential Zone; 3. Low-Medium Density Residential Zone; and 4. Mixed Use Zone (Commercial/Industrial Precinct).	**AO9** On all common boundaries with land in a residential zone, development provides: 1. screen landscaping with a minimum width of: a. 3 metres if located in the Industry Zone or Mixed Use Zone (Commercial/Industrial Precinct); or b. 2 metres if located in any other listed Zone; or 2. a solid screen fence 1.8 metres high. Screen landscaping shall be designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design**. ***Note:*** *In areas of MLES or MSES, fencing or buffer landscaping is designed to be wildlife-friendly.*	**Not applicable**.	
Street Landscaping			
PO10 Development includes street landscaping that enhances the character of the local area and: 1. incorporates shade trees; 2. contributes to the continuity, character and form of existing and proposed streetscapes in the locality, including streetscape works; 3. incorporates landscape design (including planting, pavements, furniture, structures, etc.) that reflect and enhance the character of the streetscape;	**AO10** Development: 1. provides street trees along each road frontage of the site at whichever is the greater of: a. 1 tree per 10 metres of road frontage; or b. 1 tree per 400m^2 of site area; and 2. uses trees selected from **Planning Scheme Policy 2 - Landscape Design** - Part 4 Preferred Landscape Species; and 3. provides street landscaping in accordance with standards in **Planning**	**Not applicable.**	

4. incorporates landscape design that is consistent with and complementary to the natural landscape character of the local area; and 5. minimises risk to the natural environment and damage to infrastructure and built structures.	**Scheme Policy 2 - Landscape Design**.		
Outdoor Storage Areas			
PO11 Development ensures outdoor storage and waste storage areas are screened from view from the street and public spaces.	**AO11** Outdoor storage and waste storage areas are screened from the street or a public space, by way of either: 1. 2 metre wide screen landscaping designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design**; or 2. a solid 1.8 metre high screen fence.	**Not applicable.**	
Hardstand Areas			
PO12 Development provides buffer landscaping that ensures vehicle parking, public areas and common areas enhance the amenity and safety of the site and mitigate impacts associated with expanses of hardstand area.	**AO12** Buffer landscaping of vehicle parking, public areas and common areas meets the standards in **Planning Scheme Policy 2 - Landscape Design**.	**Complies.**	
Landscaping for Specific Uses			
PO13 Animal keeping provides for: 1. landscaping: a. that enhances and softens the visual and built form attributes of	**AO13** Where visible from an adjoining road or sensitive receiver not associated with the development, development provides: 1. buffer landscaping designed and	**Not applicable.**	

a development; and b. integrates the development with its surroundings; and 2. landscaping that buffers the development and any incompatible uses and provides privacy for sensitive receivers.	constructed in accordance with **Planning Scheme Policy 2 - Landscape Design**; or 2. a solid 1.8 metre high screen fence.		
PO14 A Tourist park, Relocatable home park or a Retirement facility mitigates potential visual impacts of the development by including appropriate screening and separation from the street and sensitive receivers.	**AO14.1** A solid 1.8 metre high screen fence is provided for the full length of any common property boundary adjoining a sensitive receiver.	**Not applicable.**	
	AO14.2 A 3 metre wide screen landscape is provided to the front, side and rear property boundaries of the site designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design.**	**Not applicable.**	
PO15 An Extractive industry is screened from roads, public areas and neighbouring properties for the life of the activity, having regard to: 1. the characteristics of the site and surrounding area; 2. the resource being extracted; and 3. the landscape character of the locality.	**AO15.1** No existing vegetation is cleared within buffer areas.	**Not applicable.**	
	AO15.2 Shrubs and trees are either retained or planted to: 1. screen the activities on the site from any public area; and 2. provide a screen landscape at least 30 metres wide along all boundaries.	**Not applicable.**	
	AO15.3 Where there is no existing vegetation to form an adequate screen, planted mounds are	**Not applicable.**	

	erected within 10 metres of the property boundary: 1. with a maximum slope of 1 in 3; and 2. a minimum height of 1.2 metres such as to impede the line of site from adjoining residences and public places.	**Not applicable.**	
	AO15.4 A Landscape Plan, prepared by a suitably qualified person, is submitted to Council which provides for: 1. an overall concept plan for screen landscaping; 2. for screen landscaping to be planted in advance of stages; 3. maintenance of vegetation; and 4. proposed criteria and staging for the submission of the landscape bond for the establishment and maintenance of landscaping.		
	AO15.5 Landscaping meets the standards in **Planning Scheme Policy 2 - Landscape Design.**	**Not applicable.**	
PO16 A medium density residential activity provides for: 1. landscaping: a. that enhances and softens the visual and built form attributes of a development; and b. integrates the development with its surroundings;	**AO16** A development: 1. provides aesthetic landscaping in accordance with **Planning Scheme Policy 2 - Landscape Design**; and 2. provides a landscaped area within the front setback, which comprises a minimum of 70% soft landscaping.	**Not applicable.**	

2. landscaping that screens the development from incompatible uses and provides privacy for sensitive receivers; 3. landscaping that ensures vehicle parking, public areas and common areas enhance the amenity of the site and mitigate impacts associated with expanses of hardstand area.			
PO17 Large scale structures associated with: 1. Intensive animal industry (not being a poultry farm); 2. Intensive horticulture; 3. Renewable energy facility; 4. Wholesale nursery; and do not present an appearance of bulk to a residential zone, sensitive land uses, roads or public places adjacent to the development through buffer landscaping, design or distance.	**AO17** Development: 1. provides buffer landscaping where the development is visible from a residential zone, existing sensitive receivers, roads or public places; and 2. ensures that landscaping is designed and constructed in accordance with **Planning Scheme Policy 2 - Landscape Design.**	**Not applicable.**	

Note *- Where a development is subject to more than one landscape outcome, the following applies:*

1. *where differing standards apply, the higher standard and greater width of landscaping applies;*
2. *landscaping can be combined to achieve multiple outcomes, e.g. a car park buffer can also provide aesthetic landscaping where designed appropriately*

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8.2.6.3 Assessment Benchmarks

Table 8.2.6.3.1 — Flood Hazard Overlay Code - for Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
PO1 Development siting, layout and access: 1. responds to the potential risk of flooding, including the Flood Hazard Category on the site; 2. maintains personal safety at all times; and 3. mitigates the risk to people and property to an acceptable or tolerable level. ***Note** - Flood Hazard Category is shown on the **Flood Hazard Overlay Map - Category Area OM-06-B.***	**AO1.1** A new building or extension to an existing building is not located in a high hazard category area as shown on the **Flood Hazard Overlay Map - Category Area OM-06-B.** **AO1.2** Residential buildings: 1. are not located on land in a flood hazard area; or 2. where the development cannot be located on land outside the flood hazard area, all floor levels of habitable rooms are elevated a minimum of 500mm above the defined flood level. Non-residential buildings: 1. are not located on land in a flood hazard area; or 2. where development cannot be located on land outside the flood hazard area, all floor levels are constructed above the defined flood level. ***Note** - If part of the site is outside the flood*	**Complies.** The flood hazard area is confined to the south-east corner of the site. The hazard level is identified as Low and part Medium. There are no buildings or infrastructure proposed within the hazard area. **Not applicable.**	

	hazard area, this is the preferred location for development. ***Note** - Building work in a designated flood hazard area must meet the requirements of the relevant building assessment provisions under the Building Act 1975.* ***Editor's Note** - The defined flood level may be obtained from Council through a Flood Level Search where the property is located within the Defined Flood Event on **Flood Hazard Overlay Map - Hazard Area OM-06-A**. A site based flood study is required that investigates the impact of the development on the floodplain and demonstrates compliance with the Performance Outcome where a flood level is not available (Investigation Area).*		
	AO1.3 Development provides for a road and/or pathway layout that ensures residents are not physically isolated by the defined flood event and provides a safe and clear evacuation route by: 1. locating entry points into the development are located outside the flood hazard area; 2. ensuring all roads in the development are located outside the flood hazard area; 3. avoiding cul-de-sacs or other non-permeable layouts; and 4. providing direct and simple routes to main carriageways.	**Complies.** Access to the site is not flood affected. Safe evacuation routes are available for residents of the caretaker's accommodation during flood events.	
	AO1.4 Development ensures that all buildings have vehicle and pedestrian evacuation routes outside the flood hazard area to facilitate	**Complies.**	

	egress from the site.		
	AO1.5 Development either: 1. does not create additional lots that are located in the flood hazard area; or 2. creates lots that incorporate a building envelope outside the flood hazard area. ***Editor's note*** *- If part of the site is outside the Flood Hazard Area, this is the preferred location for all lots (excluding park or other relevant open space and recreation lots).* ***Editor's Note*** *- Buildings subsequently developed on the lots created will need to comply with the relevant building assessment provisions under the Building Act 1975.*	**Complies.**	
	AO1.6 There is no intensification of residential uses within flood affected areas on land situated below the defined flood event. ***Editor's note*** *- If part of the site is outside the Flood Hazard Area, this is the preferred location for all buildings.*	**Complies.**	
	AO1.7 Development ensures that: 1. signage is provided on a road or pathway indicating the position and path of all safe evacuation routes off the premises; and 2. where the site contains or is within 100m of a floodable waterway, hazard warning signage and depth indicators are provided at key hazard points, such as at floodway crossings or entrances	**Not applicable.**	

	to low-lying reserves.		
	AO1.8 Development is located to support self-evacuation of people, and ensure sufficient warning time for the nature of the use.	**Complies.**	
	AO1.9 Development in greenfield areas protects a floodway by providing an easement or reserve over the area of the premises up to the defined flood event.	**Not applicable.**	
	AO1.10 Development allows an area within the development site at or above the flood planning level with sufficient space to accommodate the likely population of the development in safety for a relatively short time until flash flooding subsides (if applicable) or people can be evacuated.	**Complies.**	
PO2 Development is compatible with the level of risk associated with the flood hazard such that: 1. Vulnerable uses in the high hazard Flood Hazard Category are avoided; 2. Vulnerable uses in the medium or low hazard Flood Hazard Category area mitigates the risk to an acceptable or tolerable level. ***Note** - Flood Hazard Category is shown on the Flood Hazard Overlay Map - Category Area OM-06-B.*	**AO2** Development in high hazard areas is limited to non-Vulnerable uses.	**Not applicable.**	
PO3	**AO3.1**		

Development is resilient to flood events and supports disaster management response or recovery capacity and capabilities by ensuring design, built form and materials stored on site do not increase the potential for damage on the site or to other properties.	Materials stored on site: 1. are readily able to be moved in a flood event to a flood free area; and 2. where capable of creating a safety hazard by being shifted by floodwaters, are contained in order to minimise movement in times of flood. ***Note** - Businesses and Animal Husbandry or Cropping uses should ensure that they have the necessary continuity plans in place to account for the potential need to relocate property prior to a flood event (e.g. allow enough time to transfer stock to the upstairs level of a building, an area not affected by flood, or off site).* ***Note** - Queensland Government Fact Sheet 'Repairing your house after a flood' provides information about water resilient products and building techniques.*	**Complies.** The flood hazard area will not be used for any purpose in connection with the transport depot. It will be used for stormwater detention purposes only.	
	AO3.2 Non-residential buildings and structures allow for flow through of flood waters on the ground floor. ***Editor's Note** - The relevant building assessment provisions under the Building Act 1975 apply to all building work within the Flood Hazard Area and need to take account of the flood potential within the area.*	**Not applicable.**	
PO4 Development avoids the release of hazardous materials into floodwaters.	**AO4** Development: 1. involving materials manufactured or stored on site are not hazardous or noxious, or comprise materials that may cause a detrimental effect on the environment if discharged in a flood event; or 2. involving the manufacture or storage of	**Not applicable.**	

	hazardous materials ensures structures are: a. located above the defined flood level; or b. designed to prevent the intrusion of floodwaters; or 3. where a defined flood level is not available, ensures hazardous materials and their manufacturing equipment are: a. located on the highest part of the site to enhance flood immunity; and b. designed to prevent the intrusion of floodwaters. ***Editor's Note*** *- Refer to the Work Health and Safety Act 2011 and associated Regulation and Guidelines, the Environmental Protection Act 1994 and the relevant building assessment provisions under the Building Act 1975 for requirements related to the manufacture and storage of hazardous substances.*		
PO5 Development supports, and does not burden, disaster management response or recovery capacity and capabilities.	**AO5** Development does not: 1. increase the number of people calculated to be at risk from flooding; or 2. increase the number of people likely to need evacuation; or 3. shorten flood warning times; or 4. impact on the ability of traffic to use evacuation routes, or unreasonably increase traffic volumes on evacuation routes.	**Complies.**	
PO6 Development involving community facilities or infrastructure:	**AO6.1** Any components of infrastructure that are likely to fail to function or may result in	**Not applicable.**	

1. remains functional to serve community need during and immediately after a flood event; 2. is designed, sited and operated to avoid adverse impacts on the community or the environment due to the impacts of flooding on infrastructure, facilities or access and egress routes; 3. retains essential site access during a flood event; and 4. is able to remain functional even when other infrastructure or services may be compromised in a flood event.	contamination when inundated by flood, such as electrical switch gear and motors, telecommunications connections, or water supply pipeline air valves, are: 1. located above the defined flood level; and 2. designed and constructed to exclude floodwater infiltration.		
	AO6.2 Infrastructure is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by flood.	**Not applicable.** No infrastructure is proposed within the hazard area.	
	AO6.3 In new subdivisions and large master planned developments, arterial, sub-arterial or major collector roads are located above a suitable flood immunity level.	**Not applicable.**	
PO7 Development involving community facilities or infrastructure: 1. remains functional to serve community need during and immediately after a flood event; 2. is designed, sited and operated to avoid adverse impacts on the community or the environment due to the impacts of flooding on infrastructure, facilities or access and egress routes; 3. retains essential site access during a flood event; and 4. is able to remain functional even when other infrastructure or services may be	**AO7.1** Development for community services activities or infrastructure is designed to have a minimum flood immunity as prescribed in **Table 8.2.6.3.2.**	**Not applicable.**	
	AO7.2 For all other development being an infrastructure activity not listed in **Table 8.2.6.3.2**, such development can function effectively during and immediately after flood events.	**Not applicable.**	
	AO7.3 For all other development being a community services activity not listed in **Table 8.2.6.3.2**, such development is not	**Not applicable.**	

compromised in a flood event.	located on land inundated during a defined flood event.	**Not applicable.**	
	AO7.4 The following uses have direct access to low hazard evacuation routes as defined in **Table 8.2.6.3.3 Low Hazard Evacuation Routes**: 1. Community residence; 2. Emergency services; 3. Hospitals; 4. Residential care facility; 5. Retirement facility; 6. Child care centre; 7. Substation; 8. Utility installations; 9. Community use; 10. Community care centre; 11. Detention facility; 12. Educational establishment; 13. Tourist park; 14. Rooming accommodation; 15. Rural workers' accommodation; 16. Relocatable home park; and 17. Workforce accommodation.		
PO8 Development directly, indirectly and cumulatively avoids any increase in water flow, velocity or flood level and does not increase the potential for damage on site or on other properties.	**AO8.1** In non-urban areas, buildings, infrastructure and building envelopes are set back a minimum of 50 metres from Stream Order 3 and 4, and Stream Order 5 to 7 on the **Environmental Significance Overlay Map - Local Watercourses OM-04-E** to maintain the natural riparian corridors and their natural function of reducing velocity of flood waters.	**Not applicable.** There are no mapped watercourses on the site on Overlay Map 04-E.	

	Editor's Note *- Fences and irrigation infrastructure (e.g. irrigation tape) in rural areas should be managed to minimise adverse impacts that they may have on downstream properties in the event of a flood.*		
	AO8.2 Development on land in a flood hazard area either: 1. does not involve a net increase in filling greater than 50m³ where located in a non-urban area; or 2. does not result in any reductions of on-site flood storage capacity and contain within the subject site any changes to depth, duration and velocity of floodwaters; or 3. does not change flood characteristics outside the subject site in ways that result in: a. loss of flood storage; b. loss of/changes to flow paths; c. acceleration or retardation of flows; and d. any reduction in flood warning times elsewhere on the floodplain. ***Note -*** *A hydraulic and hydrology report, prepared by a suitably qualified person can be prepared to demonstrate compliance with this performance outcome.*	**Complies.**	
	AO8.3 Where development is located in an area affected by a defined flood event, a hydraulic and hydrology report, prepared by a suitably qualified person, demonstrates that the	**Not applicable.** The extent of flooding on the site is minor. There are no buildings or infrastructure proposed within	

	development: 1. maintains the flood storage capacity on the subject site; 2. does not increase the volume, velocity, concentration or flow path alignment of stormwater flow across sites upstream, downstream or in the general vicinity of the subject site; and 3. does not increase stormwater ponding on sites upstream, downstream or in the general vicinity of the subject site.	the hazard area. The flood storage capacity will not be compromised or reduced in any way.	
	AO8.4 Works in urban areas associated with the proposed development do not involve: 1. any physical alteration to a watercourse or floodway including vegetation clearing; and/or 2. a net increase in filling (including berms / mounds). ***Editor's note** - Berms/mounds are considered to be an undesirable built form outcome and are not supported.*	**Complies.**	

Table 8.2.6.3.2 Minimum flood immunity standards for infrastructure

Infrastructure Type	Settlement context^	Floodplain context*	Minimum immunity
Transport infrastructure			
Any transport infrastructure as defined by the Regulation	All	All	No specific recommended flood level, but development proponents should ensure that the infrastructure is optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the administering government agency.

Needing to operate during and immediately after a flood event			
Hospitals and associated institutions Emergency services facility (including police facilities) Water cycle management infrastructure (water treatment plant) Facilities used as an evacuation or recovery facility in addition to their normal function (e.g. sporting facility, community centre, meeting hall)	All	High hazard or limited warning (e.g. less than 24 hours)	Locate outside PMF or other available extreme event (such as 0.2% AEP*, at a minimum)
	All	High hazard and longer warning	Locate outside 0.2% AEP* **OR** Building floor levels above 0.2% AEP* plus freeboard.
		Lower hazard and longer warning	
Involving vulnerable persons			
Retirement village Residential care facility Facility where an education and care service under the Education and Care Services National Law (Queensland) is operated or a childcare service under the Child Care Act 2002 is conducted Correctional facility Education establishment	Small town/rural settlement	High hazard or limited warning (e.g. less than 24 hours)	Locate outside PMF or other available extreme event (such as 0.2% AEP, at a minimum).
		High hazard and longer warning	Locate outside 1% AEP.
		Lower hazard and longer warning	Locate outside 1% AEP. **OR** Building floor levels above 1%AEP plus freeboard.
	Larger urban centre	High hazard or limited warning (e.g. less than 24 hours)	Locate outside PMF or other available extreme event (such as 0.2% AEP).
		Lower hazard or longer warning	Locate outside 1% AEP.
Needing to operate soon after a flood event			
Cemetery and crematorium Sporting facility, community centre, meeting hall (where not used as an evacuation or recovery facility) Waste management facilities	All	High hazard or limited warning (e.g. less than 24 hours)	Locate outside 1% AEP.
		High hazard and longer	Locate outside 1% AEP.

Storage and works depots and similar facilities, including administrative facilities associated with the provision or maintenance of the community infrastructure mentioned in this part.		warning Lower hazard and longer warning	**OR** Building floor levels above 1%AEP plus freeboard.
Facilities with potential primarily for property loss			
Gallery, museum, library and any other similar community/cultural facility/use	All	High hazard or limited warning (e.g. less than 24 hours)	Locate outside 0.5% AEP.
		High hazard and longer warning Lower hazard and longer warning	Locate outside 1% AEP. **OR** Building floor levels above 1%AEP plus freeboard.
Other infrastructure			
Any other infrastructure as defined by the Regulation	All	All	Unless stated through other infrastructure.

**0.5% AEP for water cycle management infrastructure (water treatment plant)*

Table 8.2.6.3.3 Low Hazard Evacuation Routes

Criteria	**Degree of Flood Hazard**			
	Low	**Medium**	**High**	**Extreme**
Wading ability	If necessary children and the elderly could wade. (Generally, safe wading velocity depth product is less than 0.25).	Fit adults can wade. (Generally, safe wading velocity depth product is less than 0.4).	Fit adults would have difficulty wading. (Generally, where wading velocity depth product is less than 0.6.)	Wading is not an option.
Evacuation distances	<200 metres	200-400 metres	400-600 metres	>600 metres
Maximum Flood Depths	<0.3 metres	<0.6 metres	<1.2 metres	>1.2 metres

Maximum Flood Velocity	<0.4 metres per second	<0.8 metres per second	<1.5 metres per second	>1.5 metres per second
Typical means of egress	Sedan	Sedan early, but 4WD or trucks later.	4WD or trucks only in early stages, boats or helicopters	Large trucks, boats or helicopters.

TJ Kelly Surveys Pty Ltd
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8.2.3.3 Assessment Benchmarks

***Note** - A bushfire hazard assessment may verify the extent of hazardous vegetation and extent and nature of the bushfire hazard area (bushfire prone area). Such assessments should be undertaken using the methodology set out in **Planning Scheme Policy 4 - Bushfire Management Plans**.*

In order to demonstrate compliance with the performance outcomes and/or acceptable outcomes, a bushfire management plan prepared by a suitably qualified person is required. Where acceptable outcomes are not met a risk assessment in accordance with AS/NZS 31000:2009 will be required to demonstrate the development achieves an acceptable or tolerable level of risk to life and property.

Table 8.2.3.3.1— Bushfire Hazard Overlay Code - For Accepted and Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
Access for Firefighting Appliances			
PO1 All premises are provided with vehicular access that enables safe evacuation for occupants and easy access by fire-fighting appliances. ***Note:** A site specific assessment prepared by a suitably qualified person in accordance with Planning Scheme Policy 4 - Bushfire Management Plans, may be required to determine compliance with PO1.*	**AO1.1** Development has a driveway from a constructed road with: 1. a minimum vertical clearance of 4.8m; and 2. a minimum formed width of 3.5m. **AO1.2** 1. a driveway does not exceed a length of 60m from a constructed road; OR 2. where a driveway from a constructed road	**Complies.** The access is not within the hazard area. The internal road will have the required vertical clearance and formed width to accommodate emergency services vehicles.. The internal road allows for vehicles to manoeuvre on site and turn around where required.	

	is longer than 60m, it is designed to accommodate turning bays for firefighting appliance vehicles in accordance with Queensland Fire and Emergency Services, Fire Hydrant and vehicle access guidelines for residential, commercial and industrial lots (2019).		

Table 8.3.1.3.2— Bushfire Hazard Overlay Code - Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
All Development			
PO1 Development is located where it is not at risk from bushfire hazard. ***Note:*** *A site specific assessment prepared by a suitably qualified person in accordance with Planning Scheme Policy 4 - Bushfire Management Plans will be required to determine compliance with PO1.*	**AO1** A site specific assessment determines that bushfire hazard is unlikely on any part of the site affected by the development.	A Bushfire Management Plan will be prepared as part of the building approval process following the site works stage. The risk of bushfire will be reduced by this development as hard stand areas (defendable space) will be established around each shed. The preparation of a management plan can be conditioned.	
The following Outcomes (PO2 - PO22) must be addressed only where it is determined through AO1 above that the site is at risk from Bushfire Hazard and a Bushfire Management Plan is required			
PO2 Development complies with a site specific Bushfire Management Plan (BMP), prepared by a suitably qualified person in accordance with **Planning Scheme Policy 4 - Bushfire**	**AO2** No Acceptable Outcome is prescribed.	**Will comply.**	

Management Plans. The BMP demonstrates: 1. that the safety of people and property in a bushfire event can be managed and risks mitigated; and 2. how the specific outcomes of this Code can be achieved.			
PO3 Development does not increase the number of people living, congregating or working on land in a bushfire hazard area, unless a Bushfire Management Plan (BMP), prepared by a suitably qualified person in accordance with **Planning Scheme Policy 4 - Bushfire Management Plans**, demonstrates that the safety of people and property in a bushfire event can be managed and risks mitigated.	**AO3.1** Development does not increase the number of people living, congregating or working on land in a bushfire hazard area. **AO3.2** Development involving a vulnerable use is not established in a bushfire hazard area.	**Complies** A bushfire management plan will be prepared as part of the building works approval process, following the completion of the site works. **Not applicable.**	
PO4 Emergency services and uses providing community support services: 1. are able to function effectively and safely during and immediately after a bushfire hazard event; and 2. can demonstrate, by a Bushfire Management Plan prepared by a suitably qualified person in accordance with **Planning Scheme Policy 4 - Bushfire Management Plans**, that the safety of people and buildings in a bushfire event can be managed and lives protected during a bushfire event.	**AO4** Emergency services and uses providing community support services; 1. are not located in a bushfire hazard area; and 2. ensures the development footprint, including internal driveways between buildings and from buildings to the roadway, does not traverse a bushfire hazard area.	**Not applicable**	
PO5	**AO5**	**Not applicable**	

Development does not cause: 1. an adverse risk to people, property and the environment due to the impact of bushfire on hazardous materials; and 2. excess danger or difficulty for emergency services to provide an emergency response or evacuation.	Development involving the storage, handling or manufacture of hazardous materials is not located within a bushfire hazard area.		
PO6 Landscaping and fuel sources within the bushfire prone area between hazardous vegetation and building envelopes does not increase the potential for bushfire hazard.	**AO6** Landscaping treatments and fuel sources within a bushfire prone area, and any hazardous vegetation and building envelopes are designed and managed to achieve: 1. a potential available fuel load which is less than 5 tonnes/hectare in aggregate; and 2. a fuel structure which is discontinuous. ***Note** - A landscape maintenance plan may be required to identify the long-term management arrangements to be implemented to achieve the above Acceptable Outcome.*	**Not applicable**	
PO7 Development is designed to minimise vegetation clearing and avoid or minimise impacts on the natural environment and ecological processes.	**AO7** Development is located in an area that does not require the removal of native vegetation.	**Complies.**	
PO8 Development outside reticulated water supply areas include a dedicated static supply that is available solely for fire-fighting purposes and can be accessed by fire-fighting appliances.	**AO8** A water tank is provided within 10 metres of each building (other than a class 10 building) which: 1. is either below ground level or of non-flammable construction; 2. has a take-off connection at a level that	**Will comply.**	

	allows the following dedicated, static water supply to be left available for access by fire fighters: a. 10,000 litres for residential buildings; b. for industrial, commercial and other buildings, a volume specified in AS 2304—2011; 3. includes shielding of tanks and pumps in accordance with AS2304—2011; 4. includes a hardstand area (concrete or construction standard gravel) allowing medium rigid vehicle (15 tonne fire appliance) access within 6 metre of the tank; 5. is provided with rural fire brigade tank fittings if serviced by a rural fire brigade (i.e. 50 mm ball valve and male camlock coupling and, if underground, an access hole of 200mm (minimum) to accommodate suction lines); and 6. is clearly identified by directional signage at the street frontage.		
PO9 Where development is undertaken in an urban area or is for urban purposes a constructed perimeter road with reticulated water supply is established between the lot or building envelope and is readily accessible at all times for urban fire fighting vehicles. The access to the perimeter road is available for both fire-fighting and maintenance works for hazard reduction purposes.	**AO9.1** Lot boundaries or building envelopes are separated from hazardous vegetation by a public road which: 1. has a two-lane sealed carriageway clear of hazardous vegetation; 2. contains a reticulated water supply; 3. is connected to public roads at both ends and at intervals of no more than 500 m; 4. accommodates geometry, turning radii	**Not applicable**	

Note - *For a material change of use perimeter roads are unlikely to be required where a development site involves less than 2.5ha and alternative access is available.*	and vertical clearance in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines and the Department of Transport and Main Roads' Planning and Design Manual; and 5. allows and does not impede access for fire-fighting and maintenance for fire-fighting purposes.	**Not applicable.**	
	AO9.2 Where a reticulated water supply is available, fire hydrants are designed, sited and installed in accordance with AS2419.1-2009 Fire Hydrant Installations - System Design, Installation and Commissioning, and connected to a reticulated water supply, unless otherwise specified by the relevant water entity.		
PO10 During a bushfire event, development can be accessed from a road network suitable for use by emergency service vehicles and evacuation vehicles.	**AO10** Development is accessed from either: 1. two different vehicular access routes, both of which connect to the public road network, provide safe access and egress to two different safe destinations and are available at all times and under all weather conditions; or 2. a singular vehicular access route which connects to the public road network, that provides safe access and egress to a safe destination and is available at all times and under all weather conditions. The full extent of the route	**Complies**	

	can be traversed safely during a bushfire hazard event. ***Note**: When assessing singular vehicle access routes, consideration must be given to mitigation of risks for the route to:* 1. *become blocked to access or evacuation by fallen trees, smoke or other hazards; and* 2. *bushfire hazard of the route, which should not be of a higher bushfire hazard level than the subject development.*		
PO11 Where development is undertaken for non-urban purposes either a constructed perimeter road or a formed, all weather fire trail is established between the development (including lots or building envelopes) and the hazardous vegetation, and is readily accessible at all times for the type of fire-fighting vehicles servicing the area. The access to the perimeter road or fire trail is available for both fire-fighting and maintenance works or hazard reduction activities. ***Note -** For a material change of use fire trails are unlikely to be required where a development site involves less than 2.5ha and alternative access is available.*	**AO11** Lot boundaries or building envelopes are separated from hazardous vegetation by a public road (as per AO19), or a fire trail which has: 1. a reserve or easement width of at least 20 metres; 2. a minimum trafficable (cleared and formed) width of 4 metres and no less than 4.8 metres vertical clearance, with 3 metres each side cleared of all flammable vegetation greater than 10 centimetres in height; 3. no cut or fill embankments or retaining walls adjacent to the 4 metres wide trafficable path; 4. the trail must be capable of accommodating a 10 tonne vehicle; 5. the balance 10 metre width of the easement has managed vegetation to remove major surface hazards; 6. turning areas and vertical clearances for firefighting appliances in accordance with Queensland Fire and	**Not applicable**	

	Emergency Services' Fire hydrant and vehicle access guidelines; 7. a maximum gradient of 12.5 per cent 8. a cross-fall of no greater than 10 degrees; 9. drainage and erosion control devices in accordance with the standards prescribed in Planning Scheme Policy 1: Infrastructure Design; 10. vehicular access at each end, which is connected to the public road network at intervals of no more than 500 metres; 11. designated fire-trail signage; 12. if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; 13. if a fire trail, has an access easement that is granted in favour of council and Queensland Fire and Emergency Services; and 14. allows and does not impede access for firefighting and maintenance for firefighting purposes.		
PO12 Development is not located on slopes and land forms that expose people or property to an intolerable level of risk to life or property.	**AO12.1** Development along ridgelines, saddles and crests where adjacent slopes exceed 14 degrees is avoided. **AO12.2** Development is located where the effective slope is less than 5 degree downslope.	**Not applicable**.	
PO13 To ensure the protection of peoples' lives	**AO13.1** The dimensions and configuration of an area	**Not applicable**	

and property, an area designated for revegetation or rehabilitation will not create an additional bushfire prone area. ***Note -*** *If the acceptable outcomes are not met a bushfire hazard assessment in accordance with* ***Planning Scheme Policy 4 - Bushfire Management Plans*** *will need to be conducted to demonstrate areas designated for revegetation or rehabilitation will not create additional bushfire prone areas.*	designated for revegetation or rehabilitation ensure the area does not have the ability to become a medium, high or very high bushfire prone area in the future; **OR** The landscaping treatments are designed to achieve; 1. potential available fuel load which is less than 5 tonnes/hectare in aggregate; and 2. fuel structure which is discontinuous.		
	AO13.2 A landscape maintenance plan specifies long-term management arrangements necessary to ensure that: 1. potential available fuel load is maintained at less than 5 tonnes/hectare in aggregate; and 2. fuel structure remains discontinuous.		
PO14 Where required, recreational parks or open space are located to act as a buffer between bushfire hazard areas and development and do not create additional bushfire hazard areas.	**AO14.1** Recreational parks or open space are designed and located between buildings, building envelopes or lot boundaries and adjacent bushfire hazard areas.	**Not applicable**	
	AO14.2 Recreational parks or open space are designed to ensure that: 1. potential available fuel load is maintained at less than 5 tonnes/hectare in aggregate; and 2. fuel structure remains discontinuous.		
PO15 Essential infrastructure is designed or	**AO15** Major electricity infrastructure, electricity	**Not applicable**	

located to minimise the creation of ignition sources that would increase the potential risk of bushfires to people and property.	distribution and transmission networks within the bushfire hazard area, are managed in accordance with Electrical Safety Act 2002 and Regulation 2013.		
Reconfiguring a Lot (PO16 - PO21)			
PO16 The safety of people and property are maintained by locating house site areas and other vulnerable uses on land or part of the land not affected or accessed by bushfire hazard.	**AO16.1** 1. Land that is subject to bushfire hazard is not subdivided for residential or rural residential purposes; or 2. Proposed lots are sited on land or part of the land that is determined as having low bushfire hazard by a Bushfire Management Plan prepared by a suitably qualified person in accordance with **Planning Scheme Policy 4 - Bushfire Management Plans**. *Note - Building envelopes or similar mechanisms will be used to control the future siting of buildings.*	**Not applicable.**	
	AO16.2 Additional lots are not created where the only vehicular access route is through a bushfire hazard area.		
PO17 Development is located and designed to incorporate a bushfire defendable space which achieves separation between buildings and hazardous vegetation necessary to reduce risk to an acceptable or tolerable level.	**AO17.1** Lots or building envelopes are separated from hazardous vegetation by a distance that achieves a radiant heat flux level at any point on the building or envelope respectively of; 1. 10kW/m^2 where involving a vulnerable use; or	**Not applicable**	

	2. 29kW/m^2 otherwise. ***Note -*** *The radiant heat levels and separation distances are to be established in accordance with method 2 set out in AS3959-2009.* **AO17.2** Building envelopes are provided that separate adjacent buildings or building envelopes by a distance of 8 metres. ***Note -*** a. *Where a separation distance is proposed to be achieved by utilising existing cleared developed areas external to the site, certainty must be established (through tenure or other means) that the land will remain cleared of hazardous vegetation.* b. *For staged developments, temporary separation distances, perimeter roads or fire trails may be absorbed as part of subsequent stages.*	**Not applicable.**	
PO18 Lots are designed so that their size and shape allow for efficient emergency access to buildings for firefighting appliances. ***Note -*** *Long driveways must accommodate turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Access Guidelines.*	**AO18** Private driveways within individual lots: 1. a length no greater than 60 metres from the street to the dwelling; or 2. where exceeding a length of 60m, provide a turning bay with an 8m radius adjacent to the proposed location of any buildings; and 3. have a minimum formed width of 3.5m; and 4. have a minimum vertical clearance of 4.8m; and 5. serve no more than 3 dwellings or occupied buildings.	**Not applicable.**	

PO19 Development minimises the risk of damage to life and property from bushfires, by providing: 1. permanent access for fire-fighting vehicles; and 2. an adequate water supply for fire fighting purposes.	**AO19.1** Development involving the opening of a new road in a bushfire hazard area: 1. provides through roads; or 2. avoids cul-de-sac and dead end roads; and 3. ensures road design is capable of providing access for fire fighting and other emergency vehicles.	**Not applicable**	
	AO19.2 Development: 1. where reticulated water supply is available, incorporates a reticulated water supply that provides a reliable water supply that has a minimum flow and pressure of 10 litres per second at 200 kPa; or 2. where outside reticulated water supply areas, provides an accessible water tank that is provided within 10m of each building (other than a class 10 building) that a. is either below ground level or of non-flammable construction; b. has a take-off connection at a level that allows the following dedicated, static water supply to be left available for access by fire fighters: i. 10,000 litres for residential buildings; ii. for industrial, commercial and other buildings, a volume specified in AS		

	2304—2011; c. includes shielding of tanks and pumps in accordance with AS2304—2011; d. includes a hardstand area (concrete or construction standard gravel) allowing medium rigid vehicle (15 tonne fire appliance) access within 6m of the tank; e. is provided with rural fire brigade tank fittings if serviced by a rural fire brigade (i.e. 50 mm ball valve and male camlock coupling and, if underground, an access hole of 200mm (minimum) to accommodate suction lines); and f. is clearly identified by directional signage at the street frontage.		
	AO19.3 Where a reticulated water supply is available, fire hydrants are designed, sited and installed in accordance with Queensland Fire and Emergency Services Fire Hydrant and Vehicle Access Guidelines, unless other specified by the relevant water entity.		
PO20 The development design: 1. minimises the area of development exposed to bushfire attack; and 2. establishes safe evacuation routes to achieve an acceptable or tolerable risk to people.	**AO20** The development: 1. minimises the length of the development perimeter exposed to, or adjoining hazardous vegetation; 2. avoids the creation of bottle-neck points in the movement network within	**Not applicable**	

Note - *For example, developments should avoid finger-like or hour-glass subdivision patterns or substantive vegetated corridors between lots.*	the development; 3. establishes direct access to a safe assembly/evacuation area in the event of an approaching bushfire; 4. ensures roads internal and external to the development are designed to have sufficient capacity for the evacuating population, and minimise traffic congestion in the event of a bushfire; and 5. ensures access routes do not expose occupants to bushfire hazard. ***Note -*** *A safe assembly / evacuation area in (2) and sufficient capacity in (4) are to be determined by a bushfire hazard/risk assessment and/or bushfire protection plan.*		
PO21 Emergency services and community infrastructure are able to function effectively and immediately after a bushfire event.	**AO21** Access and egress routes are: 1. public roads; 2. are designed to be used in all weather conditions; and 3. allow provision for safe passage of a fire appliance in accordance with *Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines.*	**Not applicable**	

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9.4.3.3 Assessment Benchmarks

Table 9.4.3.3.1—Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
Infrastructure Access and Maintenance			
PO1 Infrastructure is designed and constructed to provide easy access for maintenance and to minimise maintenance costs.	**AO1.1** All elements of the stormwater drainage network are provided with access and allow for maintenance in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.** No external stormwater infrastructure is required.	
	AO1.2 Local government infrastructure on private property is provided with access easements in accordance with the **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
	AO1.3 Trenches for underground services are in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable**.	
Stormwater Infrastructure			
PO2	**AO2**	**Not applicable.**	

The stormwater network is designed to: 1. result in no net increase in stormwater leaving the site; or 2. contribute towards a catchment wide quantity control system.	No acceptable outcome is prescribed.	Stormwater will be treated on site. No external infrastructure is required.	
PO3 The stormwater network is designed to improve stormwater quality and minimise stormwater quality deterioration.	**AO3.1** Stormwater quality improvement devices are provided on all car parking areas with a capacity greater than 8 vehicles.	**Will comply.** All necessary stormwater infrastructure will be provided and can be conditioned accordingly. Refer to the stormwater management plan prepared by ACS Engneers.	
	AO3.2 Stormwater quality is controlled through the provision of features designed to reduce contaminants such as excess nutrients and petrochemicals.		
PO4 Stormwater infrastructure is designed and constructed: 1. in accordance with natural channel design principles instead of a constructed channels where there is no natural flow path; 2. to minimise erosion; 3. to not locate major overland flow paths on private property in urban areas; 4. to prevent obstruction of the drainage network; 5. to preserve public safety; and 6. to connect to the stormwater network where available.	**AO4** Stormwater infrastructure is designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design.**	**Will comply.**	
Allotment Drainage			
PO5	**AO5**		

In urban areas, development provides for allotment runoff to be: 1. connected to the stormwater network where the lot drains to the road and/or occupiable lot; or 2. discharged to a gravel pit where the lot drains to a park or drainage reserve.	Inter-lot drainage is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
Pavements and Road Works			
PO6 Road pavements are of sufficient depth to provide a minimum 20 year design life based on design traffic speeds and traffic capacity.	**AO6** Road pavements are provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO7 Development obtains access from a road and transport route which ensures the safe, efficient and comfortable operation of external roads having regard to: 1. the number and types of vehicles generated by the development; 2. ensuring pavement design, standard and width can carry the additional number and types of vehicles generated by the development without undue physical impact on the road or pavement life; 3. ensuring road and access driveway design caters for anticipated vehicles and vehicle use in the development, enabling suitable manoeuvrability and safety, and avoiding congestion; 4. the functional classification of the road from which it gains access;	**AO7** Road design and construction is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Will comply.** The access work will be designed and construction in accordance with Council's requirements.	

5. the location of access points; 6. the potential for conflict between vehicles, pedestrians, cyclists and other road users; 7. the design of pedestrian access along roads giving access to the site; and 8. the desired speed environment.			
PO8 Development minimises conflict points when locating and designing intersections.	**AO8** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO9 Development provides traffic management to ensure the safe operation of the intersection.	**AO9** Intersections, including uncontrolled intersections, round-a-bouts, signalised intersections and grade separated intersections are designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO10 The design and design capacity of a pavement: 1. is adequate for the role the pavement will play in the transport network for vehicle, pedestrian or other traffic; 2. prevents pooling of water on a pavement in other than a major flood event; 3. provides that line marking, including crossings, is designed and applied to ensure the safe movement of traffic; 4. provides guideposts and road signage that adequately warn all road users of	**AO10** Design and construction of pavement is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	

hazards to traffic movements and delineate the course of the road; and 5. ensures services, including electricity, water, sewerage and communications, are not located beneath the pavement other than where necessary to cross the pavement and: a. at a right angle to the road boundary; or b. at an angle not greater than 45 degrees to the road boundary.			
PO11 A sealed surface is provided to pavements to minimise dust, maximise pavement longevity and minimise maintenance based on the function of the road or surfaced area.	**AO11** Design and construction of pavement surface is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO12 Edging is provided to sealed surfaces where traffic volumes are significant or there are significant vehicle movements from off the sealed surface onto the sealed surface to prevent erosion of the sealed surface.	**AO12** Design and construction of pavement edging is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO13 Kerb and channel is provided within all urban areas.	**AO13** Kerb and channel is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design** in all land within the: 1. Low-Density Residential Zone; 2. Low-Medium Density Residential Zone; 3. Major Centre Zone; 4. District Centre Zone; 5. Local Centre Zone;	**Not applicable.** Kerb and channel is not established in this locality.	

	6. Township Zone; 7. Mixed Use Zone; and 8. Industry Zone.		
PO14 Kerb and channel is provided where stormwater flows in table drains will result in the erosion of the table drain.	**AO14** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO15 Upright kerb is provided in all locations where lot access is not to be provided but kerb and channel is to be provided.	**AO15** Kerbs are designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO16 Verges to roads are adequate to accommodate: 1. safe and efficient movement of all users, including pedestrians and cyclists; 2. on-street parking; 3. street tree planting; and 4. utility infrastructure, including stormwater management and run-off from road surfaces.	**AO16** Verges are designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Wil comply.**	
PO17 Table drains are provided where roadside stormwater flows can be contained within the road reserve, stormwater flows are insufficient to cause significant erosion of the table drain and a grass cover can be maintained within the table drain.	**AO17** Table drains are designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Will comply.**	
PO18 Cross drainage is managed so to retain the	**AO18** Development provides:	**Not applicable.**	

functionality of the road or paved surface.	1. cross drainage to roadways and paved surfaces in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**; or 2. diversion of cross drainage around the roadway or paved surface.		
PO19 Development provides for on-street parking considering: 1. safety; 2. the functional classification of the road; and 3. the location of any intersections or access points.	**AO19** On-street parking is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**. ***Note** - The provision of on-street parking is in addition to any parking required under the **Parking and Access Code**.*	**Not applicable.**	
PO20 The road network is designed to: 1. maximise vehicular, pedestrian, cycle and other transport network user safety; and 2. maximise the efficiency of the network considering construction cost and maintenance and operating costs.	**AO20** The road network is designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
Electricity and Communications			
PO21 Development provides electricity and communications infrastructure. Such infrastructure is located and designed to: 1. minimise the visual impact of the infrastructure; 2. be located for ease of maintenance; and	**AO21** Services are provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Will comply.** The development will be connected to the State electricity grid.	

3. provide warning tape to enable detection of underground cables when excavating.			
External Works			
PO22 Where access to the external infrastructure network is to be provided development must construct the connection of the premises to the external infrastructure network.	**AO22** No acceptable outcome is prescribed.	**Not applicable.** No external work required.	
PO23 The design of the infrastructure network and any connection to the external network is constructed to an appropriate standard and does not diminish the safety and efficiency of the infrastructure network.	**AO23** Connection to external infrastructure is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
Bridges			
PO24 Development provides for bridges to be: 1. safe for all users; 2. minimise the accumulation of debris on the bridge or its supporting structures; and 3. provided instead of culverts where there is a significant risk of clogging.	**AO24** Bridge design and construction is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
PO25 Development provides for bridges to equitably provide space for all likely users.	**AO25** Development provides for bridges which: 1. provide for separate pedestrian space where the road class provides for a pathway and/or bikeway in the road profile in accordance with the	**Not applicable.**	

	standards in **Planning Scheme Policy 1: Infrastructure Design**; 2. provide the opportunity for the future addition of separate pedestrian space; and 3. prevent access for vehicles where the bridge has not been designed to carry vehicles.		
PO26 Where the infrastructure network designs require infrastructure to cross waterways, bridges are designed to make provision for the carriage of: 1. water supply pipes; 2. sewerage pipes; and 3. electricity or telephone cables.	**AO26** No acceptable outcome is prescribed.	**Not applicable.**	
Local Area Traffic Management Devices			
PO27 Development provides for local area traffic management devices to be designed and constructed to ensure devices: 1. do not become a traffic hazard; 2. result in a diminished speed environment; 3. do not incorporate elements which would reduce visibility of hazards for traffic below that limits for the speed environment; 4. are removable at low cost; 5. are incorporated into an area that there is a clear delineation between main traffic routes and minor local streets;	**AO27** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	

and 6. do not result in a traffic hazard at the local area traffic management device due to traffic storing at an intersection.			
Street Furniture			
PO28 Development provides for street furniture to be: 1. designed and constructed to ensure they do not become a traffic hazard; 2. designed and constructed to be safe for users and passing pedestrians; 3. designed to a consistent theme used in, or intended for, the locality; 4. designed to ensure they do not impede the maintenance of services located within the road verge; 5. designed to provide an aesthetic streetscape and incorporate landscaped elements; and 6. designed, located and constructed so that pedestrian and bicycle movement is not impeded.	**AO28** Street furniture is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
Parks			
PO29 Where development provides recreation space, the design of the recreation space and any furniture or recreation equipment or facilities is safe and accessible for all users.	**AO29.1** Development provides that the design of recreation space conforms to the principles of crime prevention through environmental design (CEPTD).	**Not applicable.**	
	AO29.2 Development provides that recreation		

	spaces, including all furniture or recreation equipment, are in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.		
	AO29.3 Development provides for recreation spaces designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.		
Lighting			
PO30 Lighting infrastructure: 1. is consistent with the expected capacity of the use; 2. upgrades existing networks where current capacity is insufficient for the needs of the use; and 3. is in keeping with the character of the location.	**AO30** Lighting infrastructure is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.	**Not applicable.**	
Landscaping of Public Areas			
PO31 Landscaping of parks, streets and future public places is designed to: 1. enhance and soften the built form; 2. enhance the streetscape character; 3. contribute to attractive streets and public spaces; and 4. be in keeping with the character of the location.	**AO31** Landscaping of future public lands is provided in accordance with the standards in **Planning Scheme Policy 6: Landscaping for Public Areas**.	**Not applicable.**	

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9.4.2.3 Assessment Benchmarks

Table 9.4.2.3.1—Criteria for Assessable Development

Performance Outcomes	Acceptable Outcomes	Applicant Comments	Assessment Officer
Earthworks			
PO1 Earthworks do not result in increased instability of the subject or adjoining lands.	**AO1.1** Retaining walls: 1. are designed and certified by a suitably qualified person; and 2. do not include timber products where located or proposed to be: a. located on public land; or b. set back form a boundary adjoining public land a distance less than the height of the retaining wall.	**Not applicable.** Retaining walls are not required.	
	AO1.2 All areas of fill are compacted in accordance with: 1. Australian Standard 3798:1996 - Guidelines on Earthworks for Commercial and Residential Developments; and 2. Australian Standard 2870:1996 - Residential Slabs and Footings -	**Will comply.** Any fill required during construction will be minimal. If required, any fill will be compacted in accordance with Council's requirements.	

	Construction.		
PO2 Development undertaken in areas of existing traffic flow provides for traffic to continue to be able to reach its destination without significant delay.	**AO2** Development ensures that where the temporary diversion of traffic is necessary: 1. permission for a temporary road closure is obtainable from the Police, and a detour is provided via existing roads; or 2. a temporary detour is provided within or adjoining the site; or 3. if no detour is available, traffic flows are managed to ensure minimum disturbance to road users.	**Not applicable.**	
Damage to Existing Infrastructure			
PO3 Earthworks do not result in an unnecessary disturbance to existing infrastructure.	**AO3** 1. Development is designed to maintain the location of existing infrastructure, including depth of cover to underground infrastructure; or 2. Where disturbance to existing infrastructure is unavoidable: a. underground infrastructure that is covered to a greater depth is provided with access for maintenance and inspection purposes; or b. underground infrastructure that is uncovered, or has cover reduced to less than the applicable standard, is relocated or otherwise protected from damage; or	**Will comply.** Construction will be managed to ensure there is no impact on established infrastructure.	

	c. above ground infrastructure is repositioned to a location that complies with the applicable standards.		
Removal of Vegetation, Stumps and Dumped Waste			
PO4 Disposal of waste generated from construction activities: 1. is managed in a manner not to cause environmental harm; 2. complies with relevant legislation; and 3. does not to occur on site.	**AO4.1** Vegetation waste involving development sites of more than 5 hectares is chipped or burnt in an approved pit burner. ***Editor's Note** - Chipping is the preferred method of vegetation disposal. Chipped vegetation can be used as soil cover for exposed areas to assist sediment control.*	**Will comply.** Clearing will be minimised. Where vegetation is removed it will be disposed of in accordance with Council's requirements. This will be managed through the construction process.	
	AO4.2 Small quantities of waste are taken to an appropriate landfill facility.	**Will comply.**	
	AO4.3 Development involving contaminated waste is disposed of in an approved manner under the Environmental Protection Act 1994.	**Not applicable.**	
	AO4.4 All unconsolidated fill, builder's rubble, or other waste is removed from the site prior to the completion of works.	**Will comply.**	
Siting and Removal of Dams			
PO5 Existing dams: 1. do not create a safety hazard; 2. are located on a single lot; and	**AO5.1** Development in urban areas results in the removal of all dams.	**Not applicable.**	
	AO5.2		

3. where removed, the land is shaped and compacted back to its natural state.	Development in the Rural Zone or Rural Residential Zone only retains dams where they are fully contained within one lot.		
	AO5.3 The land affected by a dewatered dam shall be returned to its natural state by: 1. shaping the land to its natural form or in accordance with a development approval; and 2. compaction of the soil.		
Amenity			
PO6 Earthworks are conducted in a manner which minimises disruption to nearby sensitive receivers having regard to: 1. hours of operation; 2. traffic movement on access roads and within the site; 3. minimising timeframes for earthworks.	**AO6** No acceptable outcome is prescribed.	**Will comply.**	
PO7 Earthworks are conducted in a manner which reduces their visual impact.	**AO7** Earthwork areas are grassed or landscaped immediately upon completion to a standard commensurate with their surrounds.	**Will comply.**	
Dust Management			
PO8 Dust from development does not create environmental harm and minimises impacts on sensitive receivers.	**AO8.1** Development provides for the suppression of dust during construction or earthworks.	**Will comply.** Dust will be managed by the project manager during the construction process.	
	AO8.2 Haul routes for bulk earthworks are located	**Not applicable.**	

	as far as practical from sensitive receivers.		
PO9 Spoil piles, stockpiles and borrow pits are located and managed to not create a dust nuisance and to minimise impacts on sensitive receivers.	**AO9.1** Spoil piles, stockpiles and borrow pits are located as far as practical from sensitive receivers.	**Not applicable.**	
	AO9.2 Spoil piles, stockpiles and borrow pits, operating for greater than one week, are covered.	**Not applicable.**	
Stormwater Management — Protecting Water Quality and Hydrological Processes			
PO10 Development is planned and designed considering site land-use constraints to allow the provision of stormwater management systems that avoid or minimise adverse impacts on environmental values of receiving waters. ***Editor's Note:*** *A site stormwater quality management plan prepared by a suitably qualified person is required to inform the layout of the development and to demonstrate compliance with the requirement*	**AO10.1** Development demonstrates it has minimised disturbance to: 1. natural drainage; 2. areas with erosive, dispersive, sodic and/or saline soils; 3. acid sulfate soils; 4. groundwater levels; and 5. landscape features and vegetation.	**Complies.** Work will be undertaken in accordance with the accompanying stormwater management plan prepared by ACS Engineers.	
	AO10.2 A stormwater management system has sufficient site area to service the requirements of the development.		
	AO10.3 Stormwater management systems: 1. are located outside of wetlands, waterways and riparian areas; and 2. prevent increased channel bed and bank erosion. ***Editor's Note:*** *The approximate location of*		

	wetlands and waterways can be found on ***Environmental Significance Overlay Map — Wetlands and Waterways OM-04-D*** *and* ***Environmental Significance Overlay Map — Local Watercourses OM-04-E***		
PO11 Construction activities for the development avoid or minimise adverse impacts on sediment mobilisation, stormwater quality and hydrological processes.	**AO11.1** An erosion and sediment control program (ESCP) demonstrates that release of sediment-laden stormwater is avoided or minimised by achieving the design objectives listed in **Table 9.4.2.3.2 - Construction Phase — Stormwater Management Design Objectives.** **OR** **AO11.2** The ESCP demonstrates how stormwater quality will be managed so that target contaminants are treated to a design objective at least equivalent to **Table 9.4.2.3.2 - Construction Phase — Stormwater Management Design Objectives.**	**Will comply.** An Erosion and Sediment Control Plan will be prepared as part of the building works approval process. This can be conditioned accordingly.	
PO12 Development manages stormwater to avoid or minimise the environmental impacts of stormwater discharge on the quality and waterway hydrology of receiving waters. ***Editor's Note:*** *A site stormwater management plan prepared by a suitably qualified person is provided that demonstrates development can be managed to achieve compliance with the stormwater management design objectives.*	**AO12** Development is managed so that it meets the objectives in **Table 9.4.2.3.4 - Post Construction Phase — Stormwater Management Design Objectives.**	**Will comply.**	
PO13	**AO13**		

Development prevents increased bed and bank erosion in receiving waterways by limiting changes in run-off volume and peak flows.	The development is designed to: 1. minimise impervious areas; 2. maximise opportunities for capture and reuse of stormwater; 3. incorporate natural channel design principles; and 4. achieve the waterway stability objectives listed in **Table 9.4.2.3.4 - Post Construction Phase — Stormwater Management Design Objectives.** ***Note:*** *The waterway stability objective listed in* ***Table 9.4.2.3.4*** *applies if development drains to an unlined waterway within or downstream of the site where there is an increased risk of erosion due to changes in hydrology.*	**Will comply.**	
PO14 Development protects in-stream ecology by maintaining pre-development low-flow discharge regimes.	**AO14** No acceptable outcome is prescribed.	**Not applicable.**	
PO15 Development ensures that the entry and transport of contaminants into stormwater is avoided. ***Note:*** *Prescribed water contaminants are defined in the Environmental Protection Act 1994.*	**AO15** No acceptable outcome is prescribed.	**Not applicable.**	
Point Source Wastewater Management (Other than Contaminated Stormwater and Sewage)			
PO16 Development involving wastewater discharge (other than contaminated stormwater and sewage) to a waterway	**AO16.1** Where the development involves the discharge of wastewater (other than contaminated stormwater and sewage), a	**Not applicable.**	

avoids or minimises adverse impacts to ecological processes, riparian vegetation, waterway integrity, and downstream ecosystem health.	wastewater management plan (WWMP) is prepared by a suitably qualified person and addresses: 1. wastewater type; 2. climatic conditions; 3. water quality objectives; 4. soil conditions and natural hydrology; and 5. best practice environmental management. ***Note** - Development is designed to achieve the prescribed water quality objectives for Waterways in accordance with the Environmental Protection (Water) Policy 2009.*		
	AO16.2 The WWMP prepared in **AO16.1** provides that wastewater is managed in accordance with a waste-management hierarchy that: 1. avoids wastewater discharges to waterways; or 2. if wastewater discharge to waterways cannot practicably be avoided, minimises wastewater discharge to waterways by reuse, recycling, recovery and treatment for disposal to sewer, surface water and groundwater.		
Non-tidal artificial waterways			
PO17 The location of artificial waterways: 1. avoids groundwater-recharge areas; 2. incorporates low lying areas of a catchment connected to an existing waterway;	**AO17** No acceptable outcome is prescribed.	**Not applicable.**	

3. does not disturb natural wetlands and any associated buffer areas; 4. minimises disturbing soils or sediments; and 5. avoids altering the natural hydrologic regime in nutrient hazardous areas.			
PO18 Stormwater is treated before discharge into a non-tidal artificial waterway.	**AO18** Before being discharged into an artificial waterway, stormwater is treated to achieve the applicable stormwater management design objectives outlined in: 1. **Table 9.4.2.3.2- Construction Phase — Stormwater Management Design Objectives;** 2. **Table 9.4.2.3.3 - Construction phase — Stormwater Management Design Objectives for Temporary Drainage Works;** and 3. **Table 9.4.2.3.4 - Post Construction Phase — Stormwater Management Design Objectives.**	**Not applicable.**	
PO19 Any artificial waterway is designed, constructed and managed in a way that avoids or minimises adverse impacts on ecological processes, water quality, flood capacity, waterway integrity, and ecosystem and human health. ***Editor's Note:*** *A suitably qualified registered professional engineer, Queensland (RPEQ) with specific experience in establishing artificial waterways is required to demonstrate compliance with the requirement.*	**AO19** No acceptable outcome is prescribed.	**Not applicable.**	

Table 9.4.2.3.2- Construction Phase — Stormwater Management Design Objectives

Issue	Desired Outcomes
Drainage control ***Note*** *- Refer to IECA 2008 Best Practice Erosion and Sediment Control (as amended) for details on the application of the Construction Phase requirements.*	1. Manage stormwater flows around or through areas of exposed soil to avoid contamination. 2. Manage sheet flows in order to avoid or minimise the generation of rill or gully erosion. 3. Provide stable concentrated flow paths to achieve the construction phase stormwater management design objectives for temporary drainage works as specified in **Table 9.4.2.3.2 - Construction phase — stormwater management design objectives for temporary drainage works**. 4. Provide emergency spillways for sediment basins to achieve the construction phase stormwater management design objectives of: a. 10% AEP where the design life is less than 3 months; b. 5% AEP where the design life is 3-12 months; c. 2% AEP where the design life is greater than 12 months.
Erosion control ***Note*** *- Refer to IECA 2008 Best Practice Erosion and Sediment Control (as amended) for details on the application of the Construction Phase requirements.*	1. Stage clearing and construction works to minimise the area of exposed soil at any one time. 2. Effectively cover or stabilise exposed soils prior to predicted rainfall. 3. Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised[1] using methods which will achieve effective short-term stabilisation.
Sediment control	1. Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk. 2. All exposed areas greater than 2500m^2 must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5—8.5).

Litter, hydrocarbons and other contaminants	1. Remove gross pollutants and litter. 2. Avoid the release of oil or visible sheen to released waters. 3. Dispose of waste containing contaminants at authorised facilities.
Waterway stability and flood flow management	1. Measures are either installed prior to land disturbance and are integrated with erosion and sediment controls, or equivalent alternative measures are implemented during construction. 2. Earthworks and the implementation of erosion and sediment controls are undertaken in ways which ensure flooding characteristics (including stormwater quantity characteristics) external to the development site are not worsened during construction.

Note *- Drainage, erosion and sediment controls should be appropriate to the risk posed by the activity for the relevant climatic region e.g. considering the potential soil loss rate, monthly erosivity or average monthly rainfall.*

Note *1- An effectively stabilised surface is defined as one that does not, or is not likely to result in visible evidence of soil loss caused by sheet, rill or gully erosion or lead to sedimentation water contamination.*

Table 9.4.2.3.3 - Construction phase — Stormwater Management Design Objectives for Temporary Drainage Works

Temporary drainage works	**Anticipated operation design life and minimum design storm event**		
	< 12 months	**12—24 months**	**> 24 months**
Drainage structure	1 in 2 year ARI 39% AEP	1 in 5 year ARI 18% AEP	1 in 10 year ARI 10% AEP
Where located immediately up-slope of an occupied property that would be adversely affected by the failure or overtopping of the structure	1 in 10 year ARI 10% AEP		
Culvert crossing	1 in 1 year ARI 63% AEP		

Table 9.4.2.3.4 - Post Construction Phase — Stormwater Management Design Objectives

Reductions in mean annual load from unmitigated development (%)				
Total Suspended Solids (TSS)	Total Phosphorus (TP)	Total Nitrogen (TN)	Gross Pollutants >5mm	Waterway Stability Management
80	60	45	90	Limit the 63% AEP event discharge within the receiving waterway to the pre-development 63% AEP event discharge

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