

### 9.4.3 Site earthworks code

#### 9.4.3.1 Application - Site earthworks code

This code applies to undertaking development, if:

1. the development has been categorised as either accepted development subject to requirements or assessable development - code assessment, and this code is identified as applicable to that development in the assessment benchmarks for assessable development and requirements for accepted development column of a table of assessment (Part 5);
2. the development has been categorised as assessable development - impact assessment (Part 5).

When using this code, reference should be made to section 5.3.1 'Process for determining the category of development and category of assessment for assessable development' and, where applicable, section 5.3.2 'Determining the category of development and category of assessment'.

For accepted development subject to requirements or assessable development under this Code:

1. Part A of the code applies only to accepted development subject to requirements;
2. Part B of the code applies only to assessable development.

#### 9.4.3.2 Purpose - Site earthworks

1. The purpose of the Site Earthworks code will be achieved through the following overall outcomes:
  - a. Safe, convenient, functionally efficient and attractive communities and environments are created, that are consistent with the character and amenity of the relevant zone.
  - b. Infrastructure and services are provided in an efficient manner.
  - c. The development manages stormwater to:
    - i. ensure the discharge of stormwater does not adversely affect the quality, environmental values or ecosystem functions of downstream receiving waters;
    - ii. prevent stormwater contamination and the release of pollutants;
    - iii. maintain or improve the structure and condition of drainage lines and riparian areas;
    - iv. avoid off-site adverse impacts from stormwater.
  - d. The development does not result in unacceptable impacts on the safety of the external road network.
  - e. Site works including earthworks are managed to be safe and have minimal impacts on adjoining or adjacent premises, the streetscape or the environment.
  - f. The construction of dams, filling and excavation minimise adverse impacts on the amenity, stability, drainage and environmental quality of the lot and surrounding area.
  - g. Development avoids areas subject to constraint, limitation, or environmental value. Where development cannot avoid these identified areas, it responds by:
    - i. adopting a 'least risk, least impact' approach when designing, siting and locating development in any area subject to a constraint, limitation or environmental value to minimise the potential risk to people, property and the environment;
    - ii. ensuring no further instability, erosion or degradation of the land, water or soil resource;

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- iii. when located within a Water buffer area, complying with the Water Quality Vision and Objectives contained in the Seqwater Development Guidelines: Development Guidelines for Water Quality Management in Drinking Water Catchments 2012.
- iv. maintaining, restoring and rehabilitating environmental values, including natural, ecological, biological, aquatic, hydrological and amenity values, and enhancing these values through the provision of planting and landscaping, and facilitating safe wildlife movement and connectivity through:
  - A. the provision of replacement, restoration, rehabilitation planting and landscaping;
  - B. the location, design and management of development to avoid or minimise adverse impacts on ecological systems and processes;
  - C. the requiring of environmental offsets in accordance with the Environmental Offsets Act 2014.
- v. protecting native species and protecting and enhancing species habitat;
- vi. protecting and preserving the natural, aesthetic, architectural historic and cultural values of significant trees, places, objects and buildings of heritage and cultural significance;
- vii. establishing effective separation distances, buffers and mitigation measures associated with identified infrastructure to minimise adverse effects on sensitive land uses from odour, noise, dust and other nuisance generating activities;
- viii. establishing, maintaining and protecting appropriate buffers to waterways, wetlands, native vegetation and significant fauna habitat;
- ix. ensuring it promotes and does not undermine the ongoing viability, integrity, operation, maintenance and safety of identified infrastructure;
- x. ensuring effective and efficient disaster management response and recovery capabilities;
- xi. where located in an overland flow path:
  - A. development siting, built form, layout and access responds to the risk presented by the overland flow and minimises risk to personal safety;
  - B. development is resilient to the impacts of overland flow by ensuring the siting and design accounts for the potential risks to property associated with the overland flow;
  - C. development does not impact on the conveyance of the overland flow for any event up to and including the 1% AEP for the fully developed upstream catchment;
  - D. development directly, indirectly and cumulatively avoid an increase in the severity of overland flow and potential for damage on the premises or other premises, public lands, watercourses, roads or infrastructure.

### 9.4.3.3 Requirements for assessment

If development is to be categorised as accepted development subject to requirements it must comply with the requirements for accepted development set out in Part A, Table 9.4.3.1. Where the development does not meet a requirement for accepted development (RAD) within Part A Table 9.4.3.1, the category of development changes to assessable development under the rules outlined in section 5.3.3. (1), and assessment is against the corresponding performance outcome (PO) identified in the table below. This only occurs whenever a RAD is not met, and is therefore limited to the subject matter of the RADs that are not complied with. To remove any doubt, for those RADs that are complied with, there is no need for assessment against the corresponding PO.

Requirements for accepted development (RAD)	Corresponding PO
RAD1	PO1
RAD2	PO1
RAD3	PO1
RAD4	PO2
RAD5	PO3
RAD6	PO3

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Requirements for accepted development (RAD)	Corresponding PO
RAD7	PO3
RAD8	PO5
RAD9	PO6
RAD10	PO6
RAD11	PO6
RAD12	PO6
RAD13	PO6
RAD14	PO6
RAD15	PO7
RAD16	PO7
RAD17	PO9
RAD18	PO9
RAD19	PO10
RAD20	PO10
RAD21	PO6
RAD22	PO6
RAD23	PO6
RAD24	PO6
RAD25	PO6
RAD26	PO6
RAD27	PO6
RAD28	PO11
RAD29	PO6
RAD30	PO6
RAD31	PO6
RAD32	PO6
RAD33	PO6
RAD34	PO6
RAD35	PO11
RAD36	PO12-PO23
RAD37	PO24
RAD38	PO25
RAD39	PO26
RAD40	PO26

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Requirements for accepted development (RAD)	Corresponding PO
RAD41	PO26
RAD42	PO27
RAD43	PO28
RAD44	PO29
RAD45	PO30
RAD46	PO31, PO32, PO33, PO35, PO36, PO37
RAD47	PO31, PO32, PO33, PO35, PO36, PO37
RAD48	PO31-33
RAD49	PO34
RAD50	PO38
RAD51	PO39

### Part A - Requirements for accepted development - Site earthworks

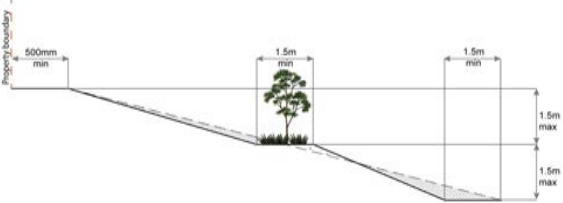
**Table 9.4.3.1 Requirements for accepted development - Site earthworks**

Requirements for accepted development	
General requirements	
Construction management	
<b>RAD1</b>	<p>Works incorporate temporary stormwater runoff, erosion and sediment controls and trash traps designed in accordance with the Urban Stormwater Quality Planning Guidelines, Planning Scheme Policy - Stormwater management and Planning scheme policy - Integrated design including, but not limited to the following:</p> <ol style="list-style-type: none"> <li>stormwater is not discharged to adjacent properties in a manner that differs significantly from pre-existing conditions;</li> <li>stormwater discharged to adjoining and downstream properties does not cause scour and erosion;</li> <li>stormwater discharge rates do not exceed pre-existing conditions;</li> <li>the 10% AEP storm event is the minimum design storm for all temporary diversion drains;</li> <li>the 50% AEP storm event is the minimum design storm for all silt barriers and sedimentation basins.</li> </ol>
<b>RAD2</b>	<p>Stormwater run-off, erosion and sedimentation controls are constructed prior to commencement of any filling or excavation and are maintained and adjusted as necessary at all times to ensure their ongoing effectiveness.</p> <p>Note - The measures are adjusted on-site to maximise their effectiveness.</p>
<b>RAD3</b>	<p>The completed earthworks area is stabilised using turf, established grass seeding, mulch or sprayed stabilisation techniques to control erosion and sediment and dust from leaving the property.</p>

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<b>RAD4</b>	No dust emissions extend beyond the boundaries of the site during soil disturbances and construction works.
<b>RAD5</b>	<p>All native vegetation to be retained on site is temporarily fenced or protected prior to and during development works.</p> <p>Note - Refer to Values and constraints RAD's in this table for classes of vegetation to be retained for accepted development subject to requirements.</p> <p>Note - No parking of vehicles or storage of machinery or goods is to occur in these areas during development works.</p>
<b>RAD6</b>	All declared weeds, stumps, fallen trees, rubbish, car bodies, scrap metal and the like are removed and disposed of in a Council land fill facility.
<b>RAD7</b>	<p>Disposal of cleared vegetation is managed in one or more of the following ways:</p> <ol style="list-style-type: none"> <li>cleared vegetation is taken off site to an approved waste disposal facility; or</li> <li>all native vegetation with a diameter below 400mm is to be chipped and stored on-site.</li> </ol>
<b>RAD8</b>	Any material dropped, deposited or spilled on the road(s) as a result of construction processes associated with the site are to be cleaned at all times.
<b>Earthworks</b>	
<b>RAD9</b>	All cut and fill batters are provided with appropriate scour, erosion protection and run-off control measures including catch drains at the top of batters and lined batter drains as necessary.
<b>RAD10</b>	<p>Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance of steep rock slopes and batters.</p> <p>Note - Inspection and certification of steep rock slopes and batters may be required by a suitably qualified and experienced RPEQ.</p>
<b>RAD11</b>	All fill and excavation is contained on-site.
<b>RAD12</b>	All fill and excavation is free draining.
<b>RAD13</b>	<p>All fill placed on-site is:</p> <ol style="list-style-type: none"> <li>limited to that required for the necessary approved use;</li> <li>clean and uncontaminated (i.e. no building waste, concrete, green waste or contaminated material etc. is used as fill).</li> </ol>
<b>RAD14</b>	<p>The site is prepared and the fill placed on-site in accordance with AS3798.</p> <p>Note - The fill is to be inspected and tested in accordance with Planning scheme policy - Operational works inspection, maintenance and bonding procedures.</p>
<b>RAD15</b>	<p>No filling or excavation is undertaken in an easement issued in favour of Council or a public sector entity.</p> <p>Note - Public sector entity is defined in Schedule 2 of the Act.</p>
<b>RAD16</b>	Filling or excavation that would result in any of the following is not carried out on-site:

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	<p>a. a reduction in cover over any Council or public sector entity infrastructure service to less than 600mm;</p> <p>b. an increase in finished surface grade over, or within 1.5m on each side of, the Council or public sector entity infrastructure above that which existed prior to the earthworks being undertaken.</p> <p>Note - Public sector entity as defined in the Sustainable Planning Act 2009.</p>
<b>RAD17</b>	<p>Where the earthworks is associated with a dam and on-site water impoundment (other than swimming pools), batter slopes are no steeper than the following:</p> <p>a. outer slope of dam wall – 1 vertical to 2 horizontal;</p> <p>b. all internal slopes – 1 vertical to 4 horizontal.</p>
<b>RAD18</b>	<p>Cut and fill batters, (other than batters to dams and water impoundments), have a finished slope no steeper than the following:-</p> <p>a. any cut batter is no steeper than:-</p> <ol style="list-style-type: none"> <li>i. for sand – 2 horizontal to 1 vertical;</li> <li>ii. for silt – 4 horizontal to 1 vertical;</li> <li>iii. for firm clay – 1 horizontal to 1 vertical;</li> <li>iv. for soft clay – 3 horizontal to 2 vertical;</li> </ol> <p>b. any fill batter, (other than a compacted fill batter), is no steeper than 4 horizontal to 1 vertical;</p> <p>c. any compacted fill batter is no steeper than:-</p> <ol style="list-style-type: none"> <li>i. for sand – 5 horizontal to 2 vertical;</li> <li>ii. for silt – 4 horizontal to 1 vertical;</li> <li>iii. for firm clay – 2 horizontal to 1 vertical.</li> </ol>
<b>RAD19</b>	<p>Any retaining walls or embankments are setback at least the equivalent height of the wall or embankment from any boundary of the site.</p>
<b>RAD20</b>	<p>Any embankments more than 1.5 metres in height are stepped, terraced and landscaped.</p> <p style="text-align: center;"><b>Figure - Embankment</b></p>  <p>The diagram illustrates a stepped embankment. On the left, a vertical line indicates the 'Property boundary'. A horizontal line extends from this boundary to the start of the embankment, labeled '500mm min'. The embankment itself is a series of steps. The first step is 1.5m high. The horizontal distance between the top of one step and the top of the next is 1.5m. The total height of the embankment is 1.5m. A tree is shown on the embankment. The embankment ends with a 1.5m high step. The horizontal distance between the top of this step and the top of the next is 1.5m. The total height of the embankment is 1.5m.</p>
<b>RAD21</b>	<p>All filling or excavation works are completed within 3 months of the commencement date.</p>
<b>RAD22</b>	<p>Stormwater discharge from dams and other water impoundments on the development site is undertaken in a manner which does not:</p>

	<ul style="list-style-type: none"> <li>a. concentrate the flow onto adjacent land; or</li> <li>b. cause scour and erosion on adjacent land; or</li> <li>c. increase the flow rates of stormwater over the affected section of the adjacent land above the pre-existing situation; or</li> <li>d. cause nuisance or annoyance to any person, property or premises.</li> </ul>
<b>RAD23</b>	A preliminary geotechnical assessment of the suitability of the dam site in terms of soil and slope stability has been carried out by an appropriately experienced and quality geotechnical engineer to confirm the dam site is suitable and stable.
<b>RAD24</b>	All fill (including the embankment) for dams is setback a minimum of 10 metres from any property boundary.
<b>RAD25</b>	The dam embankment is constructed with a clay core and cut-off trench to prevent seepage through the embankment. The cut-off trench is taken down a minimum of 600mm into impervious soil and back filled with good quality clay that is thoroughly compacted.
<b>RAD26</b>	Earth embankments are fully and thoroughly compacted.
<b>RAD27</b>	The top water surface in the dam is setback a minimum 10 metres from any property boundary.
<b>RAD28</b>	<p>When identified on Overlay map - Acid sulfate soils and excavating more than 100m<sup>3</sup> of material below RL 5.0m AHD or filling (includes the dam embankment) more than 500m<sup>3</sup> of material on land that is below RL 5.0m AHD:</p> <ul style="list-style-type: none"> <li>a. undertake a soil test to determine that Acid Sulfate Soils are not being disturbed (i.e. the soil contains no acid sulfate);</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>b. otherwise treat, any disturbed or excavated soil or sediment with fine agricultural lime to neutralise acidity. A minimum application rate of 80kg agricultural lime/m<sup>3</sup> is used (assumes oxidisable sulphur of 1.0% and a bulk density of 1.7);</li> <li>c. the stockpiling and neutralisation of excavated sediment or soil is carried out on an impermeable treatment pad, which prevents acid leaching and contains stockpile runoff;</li> <li>d. any exposed sediment or soil in excavation puts or trenches is treated with agricultural lime to neutralise acidity and prevent further acid generation at a minimum application rate of 5.0kg agricultural lime/m<sup>3</sup>.</li> </ul>
<b>RAD29</b>	<p>Dams with the following features are designed, constructed and inspected by a suitably qualified and experienced RPEQ:</p> <ul style="list-style-type: none"> <li>a. an embankment height greater than 3 metres at any point; or</li> <li>b. a top water level surface area greater than 5,000m<sup>2</sup>; or</li> <li>c. with an impoundment volume exceeding 5 megalitres; or</li> <li>d. where a dam break would threaten the lives of occupiers of downstream premises.</li> </ul>
<b>RAD30</b>	Dam embankments are constructed by a suitably experienced and qualified construction contractor.
<b>RAD31</b>	The freeboard between the top water level and the top of the embankment is not less than 1 metre.

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<b>RAD32</b>	Dams with an embankment height up to 3 metres have a minimum embankment crest width of 2.5 metres
<b>RAD33</b>	Dams have a spillway bypass with sufficient flow capacity to prevent floodwater overtopping the dam embankment.
<b>RAD34</b>	Dam spillways have surface protection to prevent erosion and scour during all flood events.

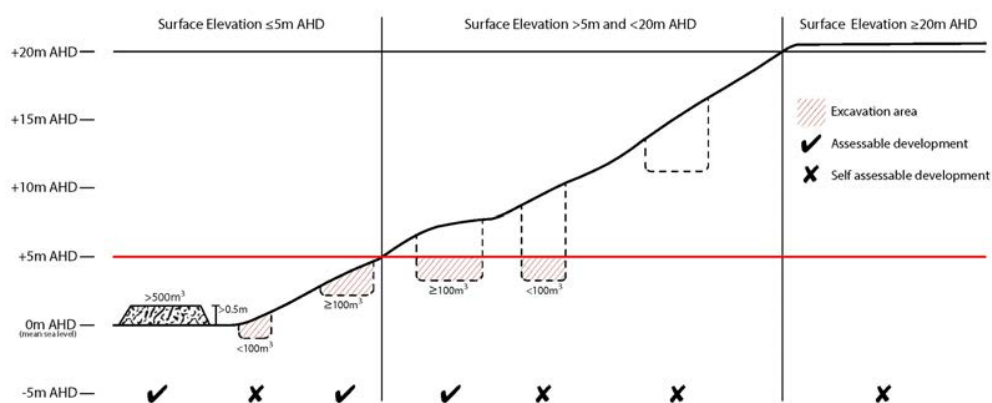
### Values and constraints requirements

Note - The relevant values and constraints requirements do not apply where the development is consistent with a current Development permit for Reconfiguring a lot or Material change of use or Operational work, where that approval has considered and addressed (e.g. through a development footprint plan (or similar in the case of Landslide hazard) or conditions of approval) the identified value or constraint under this planning scheme.

### Acid sulfate soils - (refer Overlay map - Acid sulfate soils to determine if the following requirements apply)

Note - Planning scheme policy - Acid sulfate soils provides guidance for requirements for accepted development that has the potential to disturb acid sulfate soils i.e. development involving filling or excavation works below the thresholds of 100m<sup>3</sup> and 500m<sup>3</sup> respectively.

- RAD35** Filling or excavation works, other than dams, does not involve:
- excavation or otherwise removing of more than 100m<sup>3</sup> of soil or sediment where below 5m Australian Height Datum AHD, or
  - filling of land of more than 500m<sup>3</sup> of material with an average depth of 0.5m or greater where below the 5m AHD.



### Environmental areas (refer Overlay map - Environmental areas to determine if the following requirements apply)

Note - The following are excluded from the native clearing provisions of this planning scheme:

- Clearing of native vegetation located within an approved development footprint;
- Clearing of native vegetation within 10m from a lawfully established building reasonably necessary for emergency access or immediately required in response to an accident or emergency;
- Clearing of native vegetation reasonably necessary to remove or reduce the risk vegetation poses to serious personal injury or damage to infrastructure;
- Clearing of native vegetation reasonably necessary to construct and maintain a property boundary fence and not exceed 4m in width either side of the fence where in the Rural, Rural residential and Environmental Management and Conservation zones. In any other zone, clearing is not to exceed 2m in width either side of the fence;
- Clearing of native vegetation reasonably necessary for the purpose of maintenance or works within a registered easement for public infrastructure or drainage purposes;



- f. Clearing of native vegetation in accordance with a bushfire management plan prepared by a suitably qualified person, submitted to and accepted by Council;
- g. Clearing of native vegetation associated with removal of recognised weed species, maintaining existing open pastures and cropping land, windbreaks, lawns or created gardens;
- h. Grazing of native pasture by stock;
- i. Native forest practice where accepted development under Part 1, 1.7.7 Accepted development.

Note - Definition for native vegetation is located in Schedule 1 Definitions.

Note - Native vegetation subject to this requirement primarily comprises of matters of national environmental significance (MNES), matters of state environmental significance (MSES). They also comprise some matters of local environmental significance (MLES). A MLES is defined in Schedule 1.2, Administrative definitions. A list of the elements that apply to the mapped MSES and MLES is provided in Appendix 1 of the Planning scheme policy - Environmental areas.

Editors' Note - The accuracy of overlay mapping can be challenged through the development application process (code assessable development) or by way of a planning scheme amendment. See Council's website for details.

Editors' Note - When clearing native vegetation within a MSES area, you may still require approval from the State government.

<b>RAD36</b>	Filling or excavation does not result in clearing of native vegetation in High Value Area or Value Offset Area.
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**Extractive resources transport routes (refer Overlay map - Extractive resources (transport route and buffer) to determine if the following requirements apply)**

<b>RAD37</b>	Filling or excavation is not carried out in the Extractive resources transport route or buffer, other than on public roads.
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**Heritage and landscape character (refer Overlay map - Heritage and landscape character to determine if the following requirements apply)**

Note - Places, including sites, objects and buildings having local cultural heritage significance, are identified on Overlay map - Heritage and landscape character and listed in Schedule 1 of Planning scheme policy - Heritage and landscape character. Places also having cultural heritage significance at a State level and being entered in the Queensland Heritage Register, are also identified in Schedule 1 of Planning scheme policy - Heritage and landscape character.

<b>RAD38</b>	A cultural heritage conservation management plan is prepared in accordance with Planning scheme policy – Heritage and landscape character and submitted to Council prior to the commencement of any preservation, maintenance, repair and restoration works. Any preservation, maintenance, repair and restoration works are in accordance with the Council approved cultural heritage conservation management plan.
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This does not apply to Listed item 99 in Schedule 1 - List of sites, objects and buildings of significant historical and cultural value of Planning scheme policy - Heritage and landscape character.

<b>RAD39</b>	Development does not result in the removal of or damage to any significant tree identified on Overlay map – Heritage and landscape character and listed in Appendix 2 of Planning scheme policy – Heritage and landscape character.
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<b>RAD40</b>	The following development does not occur within 20m of the base of any significant tree, identified on Overlay map – Heritage and landscape character and listed in Appendix 2 of Planning scheme policy – Heritage and landscape character:
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- a. construction of any building;
- b. laying of overhead or underground services;

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	<ul style="list-style-type: none"> <li>c. any sealing, paving, soil compaction;</li> <li>d. any alteration of more than 75mm to the ground level prior to work commencing.</li> </ul>
<b>RAD41</b>	Pruning of a significant tree occurs in accordance with Australian Standard AS 4373-2007 - Pruning of Amenity Trees.
<b>Infrastructure buffers (refer Overlay map - Infrastructure buffers to determine if the following requirements apply)</b>	
<b>RAD42</b>	Filling or excavation does not occur in the Bulk water supply infrastructure buffer.
<b>RAD43</b>	Filling or excavation does not occur in the Gas pipeline buffer.
<b>RAD44</b>	Filling or excavation does not occur in the High voltage electricity line buffer.
<b>Landslide hazard (refer Overlay map - Landslide hazard to determine if the following requirements apply)</b>	
<b>RAD45</b>	<p>Development does not:</p> <ul style="list-style-type: none"> <li>a. involve earthworks exceeding 50m<sup>3</sup>;</li> <li>b. involve cut and fill having a height greater than 600mm;</li> <li>c. involve any retaining wall having a height greater than 600mm;</li> <li>d. redirect or alter the existing flow of surface or groundwater.</li> </ul>
<b>Overland flow path (refer Overlay map - Overland flow path to determine if the following requirements apply)</b>	
<b>RAD46</b>	Development for a material change of use or building work does not involve the construction of a building or structure in an Overland flow path area.
<b>RAD47</b>	<p>Development for a material change of use or operational work does not impede the flow of flood waters through the premises or worsen flood flows to other premises.</p> <p>Note - A report from a suitably qualified Registered Professional Engineer Queensland is required certifying that the development does not increase the potential for significant adverse impacts on an upstream, downstream or surrounding premises.</p> <p>Note - Reporting to be prepared in accordance with Planning scheme policy – Flood hazard, Coastal hazard and Overland flow</p>
<b>RAD48</b>	Development for a material change of use or building work ensures that fencing in an overland flow path area is at least 50% permeable.
<b>RAD49</b>	Development for a material change of use or building work that involves a hazardous chemical ensures the hazardous chemicals is not located within an overland flow path area.
<b>RAD50</b>	Development for a material change of use or building work for a Park <sup>(57)</sup> ensures that work is provided in accordance with the requirements set out in Appendix B of the Planning scheme policy - Integrated design.
<b>Riparian and wetland setbacks (refer Overlay map - Riparian and wetland setback to determine if the following requirements apply)</b>	
<p>Note - W1, W2 and W3 waterway and drainage lines, and wetlands are mapped on Schedule 2, Section 2.5 Overlay Maps – Riparian and wetland setbacks.</p>	
<b>RAD51</b>	<p>No development is to occur within:</p> <ul style="list-style-type: none"> <li>a. 50m from top of bank for W1 waterway and drainage line</li> <li>b. 30m from top of bank for W2 waterway and drainage line</li> </ul>

	<p>c. 20m from top of bank for W3 waterway and drainage line</p> <p>d. 100m from the edge of a Ramsar wetland, 50m from all other wetlands.</p> <p>Note - W1, W2 and W3 waterways and drainage lines, and wetlands are mapped on Schedule 2, Section 2.5 Overlay Maps – Riparian and wetland setbacks.</p> <p>Note - In some cases, the top of bank may not be easily defined, as such a hydraulic measurement may be applied instead. Moreton Bay Regional Council will provide further direction on how to determine and locate the setback boundary in these locations.</p> <p>Note - The minimum setback distance applies to the each side of waterway.</p>
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### Part B - Criteria for assessable development - Site earthworks

Where development is categorised as assessable development - code assessment in the Table of Assessment, the assessment benchmarks are the criteria set out in Part B, Table 9.4.3.2 as well as the purpose statement and overall outcomes of this code.

Where development is categorised as assessable development - impact assessable, the assessment benchmarks become the whole of the planning scheme.

**Table 9.4.3.2 Assessable development - Site earthworks**

Performance outcome	Examples that achieve aspects of the Performance Outcome
<b>Construction management</b>	
<p><b>PO1</b></p> <p>All works on-site are managed to:</p> <p>a. minimise as far as practicable, impacts on adjoining or adjacent premises and the streetscape in regards to erosion and sedimentation, dust, noise, safety and light;</p> <p>b. minimise as far as practicable, impacts on the natural environment;</p> <p>c. ensure stormwater discharge is managed in a manner that does not cause nuisance or annoyance to any person or premises;</p> <p>d. avoid adverse impacts on street trees and their critical root zone.</p> <p>Note - Refer to Planning scheme policy - Integrated design for details and examples.</p>	<p><b>E1.1</b></p> <p>Works incorporate temporary stormwater runoff, erosion and sediment controls and trash traps designed in accordance with the Urban Stormwater Quality Planning Guidelines, Planning Scheme Policy - Stormwater management and Planning scheme policy - Integrated design including but not limited to the following:</p> <p>a. stormwater is not discharged to adjacent properties in a manner that differs significantly from pre-existing conditions;</p> <p>b. stormwater discharged to adjoining and downstream properties does not cause scour and erosion;</p> <p>c. stormwater discharge rates do not exceed pre-existing conditions;</p> <p>d. the 10% AEP storm event is the minimum design storm for all temporary diversion drains;</p> <p>e. the 50% AEP storm event is the minimum design storm for all silt barriers and sedimentation basins.</p>
	<p><b>E1.2</b></p>

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	<p>Stormwater runoff, erosion and sediment controls are constructed prior to commencement of any clearing or earthworks and are maintained and adjusted as necessary at all times to ensure their ongoing effectiveness.</p> <p>Note - The measures are adjusted on-site to maximise their effectiveness.</p>
	<p><b>E1.3</b></p> <p>The completed earthworks area is stabilised using turf, established grass seeding, mulch or sprayed stabilisation techniques to control erosion and sediment and dust from leaving the property.</p>
	<p><b>E1.4</b></p> <p>Where works are proposed in proximity to an existing street tree, an inspection and a root management plan is undertaken by a qualified arborist which demonstrates and ensures that no permanent damage is caused to the tree.</p>
<p><b>PO2</b></p> <p>Dust suppression measures are implemented during soil disturbances and construction works to protect nearby premises from unreasonable dust impacts.</p>	<p><b>E2</b></p> <p>No dust emissions extend beyond the boundaries of the site during soil disturbances and construction works.</p>
<p><b>PO3</b></p> <p>The clearing of vegetation on-site:</p> <ol style="list-style-type: none"> <li>is limited to the area of infrastructure works, buildings areas and other necessary areas for the works;</li> <li>includes the removal of declared weeds and other materials which are detrimental to the intended use of the land;</li> <li>is disposed of in a manner which minimises nuisance and annoyance to existing premises.</li> </ol> <p>Note - No burning of cleared vegetation is permitted.</p>	<p><b>E3.1</b></p> <p>All native vegetation to be retained on-site is temporarily fenced or protected prior to and during development works.</p> <p>Note - No parking of vehicles or storage of machinery or goods is to occur in these areas during development works.</p> <p><b>E3.2</b></p> <p>Disposal of materials is managed in one or more of the following ways:</p> <ol style="list-style-type: none"> <li>all cleared vegetation, declared weeds, stumps, rubbish, car bodies, scrap metal and the like are removed and disposed of in a Council land fill facility; or</li> <li>all native vegetation with a diameter below 400mm is to be chipped and stored on-site.</li> </ol>
<p><b>PO4</b></p>	<p>No example provided.</p>

<p>Earthworks are to be undertaken to ensure that soil disturbances are staged into manageable areas of not greater than 3.5 hectares.</p> <p>Note - Soil disturbances of greater than 1 hectare require a site specific Erosion and Sediment Control Plan (ESCP).</p> <p>Note - Council will consider clearing of larger areas in exceptional circumstances based on the staging of development.</p>	
<p><b>PO5</b></p> <p>All works on-site and the transportation of material to and from the site are managed to not negatively impact the existing road network, the amenity of the surrounding area or the streetscape.</p> <p>Note - Where the amount of imported or exported material is greater than 50m<sup>3</sup>, a haulage route must be identified and approved by Council.</p>	<p><b>E5.1</b></p> <p>Construction traffic including contractor car parking is controlled in accordance with a traffic management plan, prepared in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) to ensure all traffic movements to and from the site are safe.</p>
	<p><b>E5.2</b></p> <p>All contractor car parking is either provided on the development site, or on an alternative site in the general locality which has been set aside for car parking. Contractors vehicles are generally not to be parked in existing roads.</p> <p>Note - A Traffic Management Plan may be required for the site in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).</p>
	<p><b>E5.3</b></p> <p>Any material dropped, deposited or spilled on the road(s) as a result of construction processes associated with the site are to be cleaned at all times.</p>
<b>Earthworks</b>	
<p><b>PO6</b></p> <p>On-site earthworks are designed to consider:</p> <ol style="list-style-type: none"> <li>a. the natural topographical features of the site;</li> <li>b. short and long-term slope stability;</li> <li>c. soft or compressible foundation soils;</li> <li>d. reactive soils;</li> <li>e. low density or potentially collapsing soils;</li> <li>f. existing fill and soil contamination that may exist on-site;</li> <li>g. the stability and maintenance of steep rock slopes and batters;</li> </ol>	<p><b>E6.1</b></p> <p>All cut and fill batters are provided with appropriate scour, erosion protection and run-off control measures including catch drains at the top of batters and lined batter drains as necessary.</p>
	<p><b>E6.2</b></p> <p>Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance of steep rock slopes and batters.</p>
	<p><b>E6.3</b></p> <p>Inspection and certification of steep rock slopes and batters is required by a suitably qualified and experienced RPEQ.</p>

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<p>h. the visual impact of the excavation (cut) and fill and impacts on the amenity of adjoining lots (e.g. residential).</p> <p>i. special requirement for dams.</p> <p>Note - Filling or excavation works are to be completed within six (6) months of the commencement date.</p>	<p><b>E6.4</b></p> <p>All filling or excavation is contained on-site.</p>
	<p><b>E6.5</b></p> <p>All filling or excavation is free draining.</p>
	<p><b>E6.6</b></p> <p>All fill placed on-site is:</p> <ol style="list-style-type: none"> <li>limited to that required for the necessary approved use;</li> <li>clean and uncontaminated (i.e. no building waste, concrete, green waste or contaminated material etc. is used as fill).</li> </ol>
	<p><b>E6.7</b></p> <p>The site is prepared and the fill placed on-site in accordance with AS3798.</p> <p>Note - The fill is to be inspected and tested in accordance with Planning scheme policy - Operational works inspection, maintenance and bonding procedures.</p>
	<p><b>E6.8</b></p> <p>Stormwater discharge from dams and other water impoundments on the development site is undertaken in a manner that does not:</p> <ol style="list-style-type: none"> <li>concentrate the flow onto adjacent land; or</li> <li>cause scour and erosion on adjacent land; or</li> <li>increase the flows rates of stormwater over the affected section of the adjacent land above the pre-existing situation; or</li> <li>cause nuisance or annoyance to any person or premises.</li> </ol>
	<p><b>E6.9</b></p> <p>A preliminary geotechnical assessment of the suitability of the dam site in terms of soil and slope stability has been carried out by an appropriately experienced and quality geotechnical engineer to confirm the dam site is stable.</p>
<p><b>E6.10</b></p> <p>All fill (including the embankment) for dams is setback a minimum of 10 metres from any property boundary.</p>	

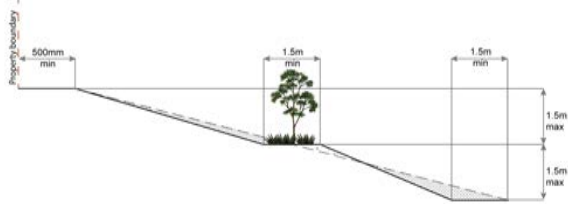
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	<p><b>E6.11</b></p> <p>The dam embankment is designed by a suitably qualified and experienced RPEQ.</p> <p><b>E6.12</b></p> <p>The dam embankment is constructed with a clay core and cut-off trench to prevent seepage through the embankment.</p> <p><b>E6.13</b></p> <p>The top water surface in the dam is setback a minimum 10 metres from any property boundary.</p> <p><b>E6.14</b></p> <p>The crest width of the dam embankment is not less than 2.5 metres.</p> <p><b>E6.15</b></p> <p>Dams have a spillway bypass with sufficient flow capacity to prevent floodwater overtopping the dam embankment.</p> <p><b>E6.16</b></p> <p>Dam spillways have surface protection to prevent erosion and scour during all flood events.</p>
<p><b>PO7</b></p> <p>Filling or excavation is undertaken in a manner that:</p> <ul style="list-style-type: none"> <li>a. does not adversely impact on Council or public sector entity maintained infrastructure or any drainage feature on, or adjacent to the site;</li> <li>b. does not preclude reasonable access to Council or public sector entity maintained infrastructure or any drainage feature on, or adjacent to the site for monitoring, maintenance or replacement purposes.</li> </ul> <p>Note - Public sector entity is defined in Schedule 2 of the Act.</p>	<p><b>E7.1</b></p> <p>No filling or excavation is undertaken in an easement issued in favour of Council or a public sector entity.</p> <p>Note - Public sector entity is defined in Schedule 2 of the Act.</p> <p><b>E7.2</b></p> <p>Filling or excavation that would result in any of the following are not carried out on-site:</p> <ul style="list-style-type: none"> <li>a. a reduction in cover over any Council or public sector entity infrastructure service to less than 600mm;</li> <li>b. an increase in finished surface grade over, or within 1.5m on each side of, the Council or public sector entity infrastructure above that which existed prior to the filling or excavation works being undertaken.</li> </ul> <p>Note - Public sector entity is defined in Schedule 2 of the Act.</p>
<p><b>PO8</b></p>	<p>No example provided.</p>

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<p>Filling or excavation does not result in:</p> <ol style="list-style-type: none"> <li>a. adverse impacts on the hydrological and hydraulic capacity of the waterway or floodway;</li> <li>b. increased flood inundation outside the site;</li> <li>c. any reduction in the flood storage capacity in the flood way; and</li> <li>d. any clearing of native vegetation.</li> </ol> <p>Note - To demonstrate compliance with this outcomes, Planning Scheme Policy - Stormwater Management provides guidance on the preparation of a site based stormwater management plan by a suitably qualified professional. Refer to Planning Scheme Policy - Integrated Design for guidance on infrastructure design and modelling requirements.</p>	
<p><b>PO9</b></p> <p>Filling and excavation does not result in land instability.</p> <p>Note - Steep rock slopes and batters are inspected and certified for long-term stability by a suitably qualified and experienced geotechnical engineer with RPEQ qualifications. Stabilisation measures are provided, as necessary, to ensure long-term stability and low maintenance.</p>	<p><b>E9.1</b></p> <p>Where the earthworks is associated with a dam or on-site water impoundment (other than swimming pools), batter slopes are no steeper than the following:</p> <ol style="list-style-type: none"> <li>a. outer slope of dam wall – 1 vertical to 2 horizontal;</li> <li>b. all internal slopes – 1 vertical to 4 horizontal.</li> </ol> <p><b>E9.2</b></p> <p>Cut and fill batters, (other than batters to dams and water impoundments), have a finished slope no steeper than the following:</p> <ol style="list-style-type: none"> <li>a. any cut batter is no steeper than:             <ol style="list-style-type: none"> <li>i. for sand – 2 horizontal to 1 vertical;</li> <li>ii. for silt – 4 horizontal to 1 vertical;</li> <li>iii. for firm clay – 1 horizontal to 1 vertical;</li> <li>iv. for soft clay – 3 horizontal to 2 vertical;</li> </ol> </li> <li>b. any fill batter, (other than a compacted fill batter), is no steeper than 4 horizontal to 1 vertical;</li> <li>c. any compacted fill batter is no steeper than:             <ol style="list-style-type: none"> <li>i. for sand – 5 horizontal to 2 vertical;</li> <li>ii. for silt – 4 horizontal to 1 vertical;</li> <li>iii. for firm clay – 2 horizontal to 1 vertical.</li> </ol> </li> </ol>
<p><b>PO10</b></p> <p>Embankments are stepped, terraced and landscaped to not adversely impact on the visual amenity of the surrounding area.</p>	<p><b>E10.1</b></p> <p>Any retaining walls or embankments are setback at least the equivalent height of the wall or embankment from any boundary of the site.</p>



	<p><b>E10.2</b></p> <p>Any embankments more than 1.5 metres in height are stepped, terraced and landscaped.</p> <p style="text-align: center;"><b>Figure - Embankment</b></p> 
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**Values and constraints criteria**

Note - The relevant values and constraints criteria do not apply where the development is consistent with a current Development permit for Reconfiguring a lot or Material change of use or Operational work, where that approval has considered and addressed (e.g. through a development footprint plan (or similar in the case of Landslide hazard) or conditions of approval) the identified value or constraint under this planning scheme.

**Acid sulfate soils - (refer Overlay map - Acid sulfate soils to determine if the following assessment criteria apply)**

Note - To demonstrate achievement of the performance outcome, an Acid sulfate soils (ASS) investigation report and soil management plan is prepared by a qualified engineer. Guidance for the preparation an ASS investigation report and soil management plan is provided in Planning scheme policy - Acid sulfate soils.

<p><b>PO11</b></p> <p>Development avoids disturbing acid sulfate soils. Where development disturbs acid sulfate soils, development:</p> <ol style="list-style-type: none"> <li>is managed to avoid or minimise the release of surface or groundwater flows containing acid and metal contaminants into the environment;</li> <li>protects the environmental and ecological values and health of receiving waters;</li> <li>protects buildings and infrastructure from the effects of acid sulfate soils.</li> </ol>	<p><b>E11</b></p> <p>Development does not involve:</p> <ol style="list-style-type: none"> <li>excavation or otherwise removing of more than 100m<sup>3</sup> of soil or sediment where below than 5m Australian Height datum AHD; or</li> <li>filling of land of more than 500m<sup>3</sup> of material with an average depth of 0.5m or greater where below the 5m Australian Height datum AHD.</li> </ol>
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**Environmental areas (refer Overlay map - Environmental areas to determine if the following assessment criteria apply)**

Note – The following are excluded from the native vegetation clearing provisions of this planning scheme:

- Clearing of native vegetation located within an approved development footprint;
- Clearing of native vegetation within 10m from a lawfully established building reasonably necessary for emergency access or immediately required in response to an accident or emergency;
- Clearing of native vegetation reasonably necessary to remove or reduce the risk vegetation poses to serious personal injury or damage to infrastructure;
- Clearing of native vegetation reasonably necessary to construct and maintain a property boundary fence and not exceed 4m in width either side of the fence where in the Rural, Rural residential and Environmental Management and Conservation zones. In any other zone, clearing is not to exceed 2m in width either side of the fence;
- Clearing of native vegetation reasonably necessary for the purpose of maintenance or works within a registered easement for public infrastructure or drainage purposes;

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- f. Clearing of native vegetation in accordance with a bushfire management plan prepared by a suitably qualified person, submitted to and accepted by Council;
- g. Clearing of native vegetation associated with removal of recognised weed species, maintaining existing open pastures and cropping land, windbreaks, lawns or created gardens;
- h. Grazing of native pasture by stock;
- i. Native forest practice where accepted development under Part 1, 1.7.7 Accepted development

Note - Definition for native vegetation is located in Schedule 1 Definitions.

Note - Native vegetation subject to this criteria primarily comprises of matters of national environmental significance (MNES), matters of state environmental significance (MSES). They also comprise some matters of local environmental significance (MLES). A MLES is defined in Schedule 1.2, Administrative definitions. A list of the elements that apply to the mapped MSES and MLES is provided in Appendix 1 of the Planning scheme policy - Environmental areas.

Editors' Note - The accuracy of overlay mapping can be challenged through the development application process (code assessable development) or by way of a planning scheme amendment. See Council's website for details.

Note - To demonstrate achievement of the performance outcome, an ecological assessment, vegetation management plan and fauna management plan, as required, are prepared by a suitably qualified person. Guidance for the preparation of above mentioned reports is provided in Planning scheme policy - Environmental areas.

### Vegetation clearing, ecological value and connectivity

#### PO12

Development avoids locating in a High Value Area or a Value Offset Area. Where it is not practicable or reasonable for development to avoid establishing in these areas, development must ensure that:

- a. the quality and integrity of the biodiversity and ecological values inherent to a High Value Area and a Value Offset Area is maintained and not lost or degraded;
- b. on-site mitigation measures, mechanisms or processes are in place demonstrating the quality and integrity of the biodiversity and ecological values inherent to a High Value Area and a Value Offset Area are maintained. For example, this can be achieved through replacement, restoration or rehabilitation planting as part of any proposed covenant, the development of a Vegetation Management Plan, a Fauna Management Plan, and any other on-site mitigation options identified in the Planning scheme policy - Environmental areas\*.

\* Editor's note - This is not a requirement for an environmental offset under the Environmental Offsets Act 2014.

No example provided.

#### PO13

Development provides for safe, unimpeded, convenient and ongoing wildlife movement and establishes and maintains habitat connectivity by:

No example provided.

<ul style="list-style-type: none"> <li>a. retaining habitat trees;</li> <li>b. providing contiguous patches of habitat;</li> <li>c. provide replacement and rehabilitation planting to improve connectivity;</li> <li>d. avoiding the creation of fragmented and isolated patches of habitat;</li> <li>e. providing wildlife movement infrastructure.</li> </ul> <p>Editor's note - Wildlife movement infrastructure may include refuge poles, tree boulevarding, 'stepping stone' vegetation plantings, tunnels, appropriate wildlife fencing; culverts with ledges, underpasses, overpasses, land bridges and rope bridges. Further information is provided in Planning scheme policy – Environmental areas.</p>	
<b>Vegetation clearing and habitat protection</b>	
<p><b>PO14</b></p> <p>Development ensures that the biodiversity quality and integrity of habitats is not adversely impacted upon but maintained and protected.</p>	<p>No example provided.</p>
<p><b>PO15</b></p> <p>Development does not result in the net loss or degradation of habitat value in a High Value Area or a Value Offset Area. Where development does result in the loss or degradation of habitat value, development will:</p> <ul style="list-style-type: none"> <li>a. rehabilitate, revegetate, restore and enhance an area to ensure it continues to function as a viable and healthy habitat area;</li> <li>b. provide replacement fauna nesting boxes in the event of habitat tree loss in accordance with Planning scheme policy - Environmental areas;</li> <li>c. undertake rehabilitation, revegetation and restoration in accordance with the South East Queensland Ecological Restoration Framework.</li> </ul>	<p>No example provided.</p>
<p><b>PO16</b></p> <p>Development ensures safe, unimpeded, convenient and ongoing wildlife movement and habitat connectivity by:</p> <ul style="list-style-type: none"> <li>a. providing contiguous patches of habitat;</li> <li>b. avoiding the creation of fragmented and isolated patches of habitat;</li> <li>c. providing wildlife movement infrastructure;</li> <li>d. providing replacement and rehabilitation planting to improve connectivity.</li> </ul>	<p>No example provided.</p>
<b>Vegetation clearing and soil resource stability</b>	
<p><b>PO17</b></p> <p>Development does not:</p>	<p>No example provided.</p>

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<ul style="list-style-type: none"> <li>a. result in soil erosion or land degradation;</li> <li>b. leave cleared land exposed for an unreasonable period of time but is rehabilitated in a timely manner.</li> </ul>	
<p><b>Vegetation clearing and water quality</b></p>	
<p><b>PO18</b></p> <p>Development maintains or improves the quality of groundwater and surface water within, and downstream, of a site by:</p> <ul style="list-style-type: none"> <li>a. ensuring an effective vegetated buffers and setbacks from waterbodies is retained to achieve natural filtration and reduce sediment loads;</li> <li>b. avoiding or minimising changes to landforms to maintain hydrological water flows;</li> <li>c. adopting suitable measures to exclude livestock from entering a waterbody where a site is being used for animal husbandry<sup>(4)</sup> and animal keeping<sup>(5)</sup> activities.</li> </ul>	<p>No example provided.</p>
<p><b>PO19</b></p> <p>Development minimises adverse impacts of stormwater run-off on water quality by:</p> <ul style="list-style-type: none"> <li>a. minimising flow velocity to reduce erosion;</li> <li>b. minimising hard surface areas;</li> <li>c. maximising the use of permeable surfaces;</li> <li>d. incorporating sediment retention devices;</li> <li>e. minimising channelled flow.</li> </ul>	<p>No example provided.</p>
<p><b>Vegetation clearing and access, edge effects and urban heat island effects</b></p>	
<p><b>PO20</b></p> <p>Development retains safe and convenient public access in a manner that does not result in the adverse edge effects or the loss or degradation of biodiversity values within the environment.</p>	<p>No example provided.</p>
<p><b>PO21</b></p> <p>Development minimises potential adverse edge effects on ecological values by:</p> <ul style="list-style-type: none"> <li>a. providing dense planting buffers of native vegetation between a development and environmental areas;</li> <li>b. retaining patches of native vegetation of greatest possible size where located between a development and environmental areas;</li> <li>c. restore, rehabilitate and increase the size of existing patches of native vegetation;</li> </ul>	<p>No example provided.</p>

<p>d. ensuring that filling or excavation are setback as far as possible from environmental areas and corridors;</p> <p>e. landscaping with native plants of local origin.</p> <p>Editor's note - Edge effects are factors of development that go to detrimentally affecting the composition and density of natural populations at the fringe of natural areas. Factors include weed invasion, pets, public and vehicle access, nutrient loads, noise and light pollution, increased fire frequency and changes in the groundwater and surface water flow.</p>	
<p><b>PO22</b></p> <p>Development avoids adverse microclimate change and does not result in increased urban heat island effects. Adverse urban heat island effects are minimised by:</p> <p>a. pervious surfaces;</p> <p>b. providing deeply planted vegetation buffers and green linkage opportunities;</p> <p>c. landscaping with local native plant species to achieve well-shaded urban places;</p> <p>d. increasing the service extent of the urban forest canopy.</p>	<p>No example provided.</p>
<p><b>Vegetation clearing and Matters of Local Environmental Significance (MLES) environmental offsets</b></p>	
<p><b>PO23</b></p> <p>Where development results in the unavoidable loss of native vegetation within a Value Offset Area MLES waterway buffer or a Value Offset Area MLES wetland buffer, an environmental offset is required in accordance with the environmental offset requirements identified in Planning scheme policy - Environmental areas.</p> <p>Editor's note - For MSES Koala Offsets, the environmental offset provisions in Schedule 11 of the Regulation, in combination with the requirements of the Environmental Offsets Act 2014, apply.</p>	<p>No example provided.</p>
<p><b>Extractive resources transport route (refer Overlay map - Extractive resources (transport route and buffer) to determine if the following assessment criteria apply)</b></p>	
<p><b>PO24</b></p> <p>Development does not prevent or constrain the acquisition, construction or function and efficient transport of extractive material using the Extractive resources transport route.</p>	<p><b>E24</b></p> <p>Filling or excavation is not carried out in a Extractive resources transport route, other than on public roads.</p>
<p><b>Heritage and landscape character (refer Overlay map - Heritage and landscape character to determine if the following assessment criteria apply)</b></p> <p>Note - The identification of a development footprint will assist in demonstrating compliance with the following performance criteria.</p>	

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<p><b>PO25</b></p> <p>Works do not:</p> <ol style="list-style-type: none"> <li>a. reduce public access to a heritage place, building, item or object;</li> <li>b. create the potential to adversely affect views to and from the heritage place, building, item or object;</li> <li>c. obscure or destroy any pattern of historic subdivision, historical context, landscape setting or the scale and consistency of the urban fabric relating to the local heritage place.</li> </ol>	<p>No example provided</p>
<p><b>PO26</b></p> <p>Works retain significant trees and incorporates them into the provision of infrastructure.</p>	<p>No example provided.</p>
<p><b>Infrastructure buffers (refer Overlay map - Infrastructure buffers to determine if the following assessment criteria apply)</b></p>	
<p><b>PO27</b></p> <p>Development within a Bulk water supply infrastructure buffer is located, designed and constructed to:</p> <ol style="list-style-type: none"> <li>a. protect the integrity of the water supply pipeline;</li> <li>b. maintain adequate access for any required maintenance or upgrading work to the water supply pipeline;</li> </ol>	<p><b>E27</b></p> <p>Filling or excavating does not occur in a Bulk water supply infrastructure buffer.</p>
<p><b>PO28</b></p> <p>Development in the Gas pipeline buffer:</p> <ol style="list-style-type: none"> <li>a. maintains adequate access for any required maintenance or upgrading work;</li> <li>b. minimises risk of harm to people and property.</li> </ol>	<p><b>E28</b></p> <p>Filling or excavating does not occur in the Gas pipeline buffer.</p>
<p><b>PO29</b></p> <p>Development in a High voltage electricity line buffer:</p> <ol style="list-style-type: none"> <li>a. is located and designed in a manner that maintains a high level of security of supply;</li> <li>b. is located and design so not to impede upon the functioning and maintenance of high voltage electrical infrastructure.</li> </ol>	<p><b>E29</b></p> <p>Filling or excavating does not occur in a High voltage electricity line buffer.</p>
<p><b>Landslide hazard (refer Overlay map - Landslide hazard to determine if the following assessment criteria apply)</b></p> <p>Note - To demonstrate achievement of the performance outcomes, a site-specific geotechnical assessment report is prepared by a qualified engineer. Guidance for the preparation of a geotechnical assessment report is provided in Planning scheme policy – Landslide hazard.</p>	

<p><b>PO30</b></p> <p>Development:</p> <ul style="list-style-type: none"> <li>a. maintains the safety of people and property on a site and neighbouring sites from landslides;</li> <li>b. ensures the long-term stability of the site considering the full nature and end use of the development;</li> <li>c. ensures site stability during all phases of construction and development;</li> <li>d. minimises disturbance of natural drainage patterns of the site and does not result in the redirection or alteration of the existing flow of surface or groundwater</li> <li>e. minimises adverse visual impacts on the amenity of adjoining residents and provides a positive interface with the streetscape.</li> </ul>	<p><b>E30</b></p> <p>Development does not:</p> <ul style="list-style-type: none"> <li>a. involve earthworks exceeding 50m<sup>3</sup>;</li> <li>b. involve cut and fill having a height greater than 600mm;</li> <li>c. involve any retaining wall having a height greater than 600mm;</li> <li>d. redirect or alter the existing flow of surface or groundwater.</li> </ul>
<p><b>Overland flow path (refer Overlay map - Overland flow path to determine if the following assessment criteria apply)</b></p> <p>Note - The applicable river and creek flood planning levels associated with defined flood event (DFE) within the inundation area can be obtained by requesting a flood check property report from Council.</p>	
<p><b>PO31</b></p> <p>Development:</p> <ul style="list-style-type: none"> <li>a. minimises the risk to persons from overland flow;</li> <li>b. does not increase the potential for damage from overland flow either on the premises or other premises, public land, watercourses, roads or infrastructure.</li> </ul>	<p>No example provided.</p>
<p><b>PO32</b></p> <p>Development:</p> <ul style="list-style-type: none"> <li>a. maintains the conveyance of overland flow predominantly unimpeded through the premises for any event up to and including the 1% AEP for the fully developed upstream catchment;</li> <li>b. does not concentrate, intensify or divert overland flow onto an upstream, downstream or surrounding property.</li> </ul> <p>Note - A report from a suitably qualified Registered Professional Engineer Queensland is required certifying that the development does not increase the potential for significant adverse impacts on an upstream, downstream or surrounding premises.</p> <p>Note - Reporting to be prepared in accordance with Planning scheme policy – Flood hazard, Coastal hazard and Overland flow.</p>	<p><b>E32</b></p> <p>No example provided.</p>
<p><b>PO33</b></p> <p>Development does not:</p>	<p>No example provided.</p>

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<p>a. directly, indirectly or cumulatively cause any increase in overland flow velocity or level;</p> <p>b. increase the potential for flood damage from overland flow either on the premises or other premises, public lands, watercourses, roads or infrastructure.</p> <p>Note - Open concrete drains greater than 1m in width are not an acceptable outcome, nor are any other design options that may increase scouring.</p>	
<p><b>PO34</b></p> <p>Development ensures that public safety and the risk to the environment are not adversely affected by a detrimental impact of overland flow on a hazardous chemical located or stored on the premises.</p>	<p><b>E34</b></p> <p>Development ensures that a hazardous chemical is not located or stored in an Overland flow path area.</p> <p>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.</p>
<p><b>PO35</b></p> <p>Development which is not in a Rural zone ensures that overland flow is not conveyed from a road or public open space onto a private lot.</p>	<p><b>E35</b></p> <p>Development which is not in a Rural zone that an overland flow paths and drainage infrastructure is provided to convey overland flow from a road or public open space area away from a private lot.</p>
<p><b>PO36</b></p> <p>Development ensures that inter-allotment drainage infrastructure, overland flow paths and open drains through private property cater for overland flows for a fully developed upstream catchment and are able to be easily maintained.</p> <p>Note - A report from a suitably qualified Registered Professional Engineer Queensland is required certifying that the development does not increase the potential for significant adverse impacts on an upstream, downstream or surrounding premises.</p> <p>Note - Reporting to be prepared in accordance with Planning scheme policy – Flood hazard, Coastal hazard and Overland flow</p>	<p><b>E36.1</b></p> <p>Development ensures that roof and allotment drainage infrastructure is provided in accordance with the following relevant level as identified in QUDM:</p> <p>a. Urban area – Level III;</p> <p>b. Rural area – N/A;</p> <p>c. Industrial area – Level V;</p> <p>d. Commercial area – Level V.</p> <p><b>E36.2</b></p> <p>Development ensures that inter-allotment drainage infrastructure is designed to accommodate any event up to and including the 1% AEP for the fully developed upstream catchment.</p>
<p><b>PO37</b></p> <p>Development protects the conveyance of overland flow such that an easement for drainage purposes is provided over:</p> <p>a. a stormwater pipe if the nominal pipe diameter exceeds 300mm;</p>	<p>No example provided.</p>



<p>b. an overland flow path where it crosses more than one premises;</p> <p>c. inter-allotment drainage infrastructure.</p> <p>Note - Refer to Planning scheme policy - Integrated design for details and examples.</p> <p>Note - Stormwater Drainage easement dimensions are provided in accordance with Section 3.8.5 of QUDM.</p>	
<b>Additional criteria for development for a Park<sup>(57)</sup></b>	
<p><b>PO38</b></p> <p>Development for a Park<sup>(57)</sup> ensures that the design and layout responds to the nature of the overland flow affecting the premises such that:</p> <p>a. public benefit and enjoyment is maximised;</p> <p>b. impacts on the asset life and integrity of park structures is minimised;</p> <p>c. maintenance and replacement costs are minimised.</p>	<p><b>E38</b></p> <p>Development for a Park<sup>(57)</sup> ensures works are provided in accordance with the requirements set out in Appendix B of the Planning scheme policy - Integrated design.</p>
<b>Riparian and wetland setbacks</b>	
<p><b>PO39</b></p> <p>Development provides and maintains a suitable setback from waterways and wetlands that protects natural and environmental values. This is achieved by recognising and responding to the following matters:</p> <p>a. impact on fauna habitats;</p> <p>b. impact on wildlife corridors and connectivity;</p> <p>c. impact on stream integrity;</p> <p>d. impact of opportunities for revegetation and rehabilitation planting;</p> <p>e. edge effects.</p>	<p><b>E39</b></p> <p>Development does not occur within:</p> <p>a. 50m from top of bank for W1 waterway and drainage line</p> <p>b. 30m from top of bank for W2 waterway and drainage line</p> <p>c. 20m from top of bank for W3 waterway and drainage line</p> <p>d. 100m from the edge of a Ramsar wetland, 50m from all other wetlands.</p> <p>Note - W1, W2 and W3 waterway and drainage lines, and wetlands are mapped on Schedule 2, Section 2.5 Overlay Maps – Riparian and wetland setbacks.</p>