

State development assessment provisions

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The Department of State Development, Infrastructure and Planning leads a coordinated Queensland Government approach to planning, infrastructure and development across the state.

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Part A: Introduction and policy context

Introduction

The State Development Assessment Provisions (SDAP) set out the matters of interest to the state for development assessment, where the chief executive administering the *Sustainable Planning Act 2009* (the Act) is responsible for assessing or deciding development applications.

The SDAP is prescribed in the Sustainable Planning Regulation 2009 (the Regulation), and contains the matters the chief executive administering the Act (the chief executive) may have regard to when assessing a development application as either an assessment manager or a referral agency. The chief executive may give these matters the weight the chief executive is satisfied is appropriate.

Schedule 3 of the Regulation prescribes development that is assessable development. Schedules 6 and 7 of the Regulation prescribe when the chief executive is an assessment manager or a referral agency for certain development applications.

The SDAP is a statutory instrument made under the Act, and has effect throughout the state for development applications where the chief executive is the assessment manager or a referral agency.

Statement of objectives

The SDAP is an outcome of the introduction of the State Assessment and Referral Agency (SARA), which is a key element of the reform of Queensland's planning system. While land use planning in Queensland is primarily the responsibility of local government, matters of interest to the state require assessment by the state at a site level for certain aspects.

By expressing the matters of interest to the state in development assessment in a complete and comprehensive manner, it will be easier for applicants to address these matters 'up-front' with the lodgement of their development application, rather than have to provide additional information to the state through a response to an information request. The SDAP contains the criteria for assessment by the chief executive as either an assessment manager or a referral agency, and provides applicants with:

- (1) increased transparency and clarity on how development can comply with the matters of interest to the state
- (2) clarity on when the state is to be involved in the assessment of a development application.

Together with other elements of planning reform, such as the *State Planning Policy* and the rollout of new regional plans, SARA and the SDAP will lead to greater certainty, fewer unnecessary delays, and better planning outcomes for Queensland communities.

Supporting best practice development assessment and processes

Achieving the state's interests in planning and development assessment is supported through establishing and applying best practice approaches to planning instruments and processes.

A well functioning planning system can significantly impact the state’s capacity to attract investment. It is also essential to achieving good planning and development outcomes, and ensuring the planning system is understandable to the public.

For matters where the state has an interest in development assessment, it is essential that the state outlines completely and comprehensively those aspects that an applicant is to address to support consideration of the development application by the state. This will provide the applicant with the opportunity to more effectively demonstrate to the state the merits of a particular proposal, and lead to a faster assessment of the development application by the state.

Table A.1 details the principles and implementation strategies designed to support and guide the preparation of the state codes, and of well-made development applications.

The principles apply to and underpin all the matters regulated by the state and the state codes in the SDAP.

These principles will be applied by the chief executive in the assessment of development applications, and in balancing the matters of interest to the state to deliver more efficient and reasonable planning decisions. These types of decisions will help to create the most robust, relevant and responsive planning system in Australia.

Table A.1: Principles

Principle	Implementation strategies
(1) Support the efficient approval of appropriate development	<ul style="list-style-type: none"> • Ensuring that development requirements are focused to satisfy the purpose of the relevant state code and the purpose of the Act, and are proportionate to risk • Ensuring any regulation and restriction of development is necessary, and if so, is proportionate to the potential impacts of the development being regulated • Maximising community engagement and consultation activities during the making of planning instruments, and appropriately considering and reflecting consultation outcomes into planning instruments
(2) Facilitate effective delivery of sustainable planning outcomes	<ul style="list-style-type: none"> • Facilitating development which supports the achievement of stated objectives across state, regional and local levels • Ensuring provisions such as development requirements within state codes are targeted to support the approval of strategically consistent development • Providing development opportunities which support housing, employment, infrastructure, and other economic, social or environmental needs of the community • Adopting evidence-based approaches to the development of planning instruments and decisions
(3) Protect and enhance Queensland’s natural and built environments and places	<ul style="list-style-type: none"> • Ensuring planning and urban design at all scales contribute to environments which support economic and environmental sustainability, liveability and the needs of the community in a cost effective and responsible manner • Ensuring planning instruments and decisions support the maintenance of ecological processes and environmentally sensitive areas, and enable the sustainable use and management of natural resources
(4) Maximise transparency and accountability of planning instruments and decisions	<ul style="list-style-type: none"> • Ensuring planning instruments are transparent and easily understood, and support defensible and logical development decisions

Principle	Implementation strategies
(5) Enable positive responses to change, challenges and opportunities	<ul style="list-style-type: none"> • Maintaining currency in order to reflect contemporary information, challenges and the changing needs of the community • Enabling responsive and flexible performance-based approaches to deal with an unforeseen future and rapid changes • Supporting and encouraging innovative design and development which supports the state code intent and purpose of the Act
(6) Consider infrastructure needs required to support development	<ul style="list-style-type: none"> • Applying a 'fit for purpose' approach to infrastructure planning and provision • Supporting the application of innovative solutions (such as demand reduction measures) to infrastructure challenges

Managing competing matters of interest

The management of varied, and sometimes competing, matters of interest is a core component of planning.

When considering the matters of interest to the state in situations of conflict, consideration needs to be given to a resolution that best achieves and advances the purpose of the Act.

The SDAP recognises that, in many circumstances, the resolution of competing interests is not possible to articulate on a statewide basis. There is no 'one size fits all' approach across a state as large and diverse as Queensland, and specific regional and local circumstances must be key considerations. The chief executive, in its role as an assessment manager or referral agency, will use the SDAP to assess matters of interest to the state to ensure integrated and balanced outcomes.

When applying the SDAP, the following three objectives are to be followed. These objectives are a guide to managing competing interests and priorities, including any conflict arising between matters of interest to the state. They will be considered as part of the chief executive's determination of a development application.

(1) Consider the matters of interest to the state in their entirety

The SDAP contains a number of codes outlining how the state regulates a range of discrete matters of interest. Where an application involves more than one matter of interest to the state, any areas of conflict will be resolved by the chief executive and SARA officers. This will be done by considering the regional and local context of each matter of interest, and the purpose of the Act.

(2) Support innovative and locally appropriate solutions

Where the state codes can be complied with using a number of solutions, the chief executive will consider any innovative solutions appropriate to the local context, in consultation with other relevant parties.

(3) Empower and support local governments to make the best planning decisions for their communities

The Regulation prescribes the types of development where the chief executive has a role in development assessment, as either assessment manager or referral agency. When a development proposal is consistent with the matters outlined in the SDAP, and the chief executive is a referral agency, the chief executive will provide a referral agency response to the local government in accordance with the provisions of the Act. The planning decision is to be made by the local government, with support and direction from the state where necessary. Where the state is an assessment manager, the state will consult with the local government where appropriate to ensure the proposal best achieves local diversity and circumstances.

Part B: Application and operation

Application

The SDAP applies to the assessment of a development application by the chief executive:

- (1) as assessment manager
- (2) as a referral agency.

The SDAP is not applied by local government in the assessment of development applications.

In assessing and deciding a development application, the chief executive is bound by the decision-making rules outlined in the Act.

Operation

Material that is, and is not, part of the SDAP

Parts A and B

All information included in *Part A: Introduction and policy context* and *Part B: Application and operation* of the SDAP form statutory components of the document, except information identified as an editor's note.

Part C: State codes

Part C includes the state codes for each matter of interest that are applicable where the chief executive is the assessment manager or referral agency for a development application. For user readability, and to ensure that sufficient context and background is provided within Part C, the codes are included in 19 modules (see page 4 for an overview).

Editor's note: Some modules contain only a single code, others contain up to four codes.

All information relating to a particular matter of interest to the state for development assessment, as contained within a state code, is provided within the module covering that particular state code.

All information in the module is statutory, other than editor's notes and lists of reference documents, which are intended to assist applicants in preparing a development application.

The document overview on page 4 provides a quick reference guide to the specific state codes contained within each module. Each code contains the following information:

- (1) **Purpose** — outlines the intent of the code
- (2) **Criteria for assessment** — contains tables with performance outcomes and acceptable outcomes to be met by the proposed development
- (3) **Reference tables** — information required to apply the code (applies to *Module 7: Water resources* and *Module 8: Native vegetation clearing* and *Module 15: Airports* only).

Each module also contains the following, which is applicable to all state codes contained within the module:

- (1) **Reference documents** — state codes outline relevant reference documents that may support the interpretation and assessment of a proposal against a particular matter; however, as stated above, the information listed under the reference documents heading is non-statutory information. A hyperlink to the reference documents is contained only in the Reference documents section within each module and is indicated as [hyperlink](#)
- (2) **Glossary of terms** — an individual glossary is included within each module and defines terms specific to that module. Words that are underlined are words that are defined within the glossary contained in each module. The glossary for each module is relevant only to that module
- (3) **Abbreviations** — where applicable, an individual list is included within each module of abbreviations specific to that module.

Glossary

The terms used in the SDAP have the meaning assigned to that term by:

- (1) the glossary of the applicable state code, or
- (2) the Act, or
- (3) the Regulation, or
- (4) the *Acts Interpretation Act 1954*, section 36, or
- (5) the ordinary meaning, if the term is not otherwise defined in one of the instruments mentioned above.

In the event a term has been defined in more than one of the instruments mentioned in paragraphs (1) to (4) above, the meaning contained in the instrument highest on the list will prevail.

Where a term is defined in an act or a regulation it is stated in the glossary of terms section of the module and the definition for that term is provided in an editor's note for ease of reference. The definition is taken to be the definition from the current version of the source legislation.

Numbered and bulleted lists

Numbered and bulleted lists throughout this document are to be interpreted as 'and' statements unless the word 'or' is specifically included.

Figures, notes and editor's notes

Figures provide information to support the outcomes and are statutory information.

Notes are identified by the title 'Note' and are statutory information.

Editor's notes are extrinsic material, as per the *Acts Interpretation Act 1954*, and are identified by the title 'Editor's note'. They are non-statutory.

Note: this is an example of a note.

Editor's note: this is an example of an editor's note.

Hyperlinks

Where a hyperlink is available, the text appears in the following style: [hyperlink](#). This shows an embedded link to a document, website or mapping system. Hyperlinks to documents are only provided in the reference documents section of each module.

Reference documents

Where relevant, reference documents are listed to provide further guidance about a matter contained within a state code.

Mapping

Where relevant, hyperlinks are provided to the [SARA interactive mapping system](#).

The SARA interactive mapping system provides a repository for all available mapping layers that are kept, prepared or sourced by the state that relate to relevant matters of interest to the state in development assessment. This system also provides hyperlinks to registers maintained by relevant state agencies and used to identify matters of interest, such as the Queensland Heritage Register.

While some of the mapping layers are newly developed, the majority of information shown on the SARA mapping online system is already in the public domain, but located on various state agency websites or available for download from the Queensland Government Information Service. The SARA mapping online system aims to provide a more complete visual representation of the mapping layers relating to the matters of interest where the chief executive is an assessment manager or referral agency.

Not all matters of interest to the state have associated mapping, but for those that do, the purpose of the maps can vary greatly. It is therefore important that each mapping layer is viewed and interpreted as explained within the mapping layer in the context of that particular matter of interest.

The mapping on the DSDIP website is available for viewing by the general public.

Schedule 3 of the Regulation prescribes certain development as assessable development. Schedule 6 of the Regulation specifies when the chief executive will be the assessment manager for an application, and Schedule 7 specifies when the chief executive will be a referral agency for an application. For the purposes of this document, the SARA online mapping system is intended to provide guidance to applicants and the chief executive about whether an application potentially involves a matter of interest to the state, and therefore whether it may require assessment by the chief executive.

Table B.1 is structured in the following way:

- (1) column 1 identifies the matters of interest addressed in each module (the modules are shown as a coloured row)
- (2) column 2 identifies if there is a supporting mapping layer available for the matter of interest that is viewable within the SARA mapping online system
- (3) column 3 identifies if there is a state agency register available for the matter of interest (where there is a relevant register a hyperlink is provided to the register from the SARA mapping online system)
- (4) column 4 provides guidance to the user about the mapping layer.

Table B.1: SARA mapping online system

Matter of interest	Mapping layers available	State agency register	Guidance note
Housing and liveable communities			
Community amenity	Yes	No	
Regional plans	Yes	No	For applications within South East Queensland only
Economic growth			
Aquaculture	No	No	
Environmentally relevant activities	No	Yes	
Fish habitat areas	Yes	No	
Strategic cropping land	Yes	No	
Water resources	Yes	No	
Environment and heritage			
Coastal protection	Yes	No	
Koala conservation	Yes	No	This layer is for information purposes only
Native vegetation clearing	Yes	No	
Queensland heritage	No	Yes	
Wetland protection areas	Yes	No	
Wild river areas	Yes	No	
Hazards and safety			
Contaminated land	No	Yes	
Major hazard facilities	No	No	
Transport and infrastructure			
Airport land	Yes	No	This layer only relates to the Cairns and Mackay airports
Strategic airports and aviation facilities	Yes	No	
Particular dams	No	No	
Public passenger transport	Yes	No	
Rail	Yes	No	
Strategic ports	Yes	No	This layer is for information purposes only
State-controlled roads	Yes	No	
State-controlled transport tunnels	Yes	No	

The state codes

When the state codes apply

If the chief executive is the assessment manager for a development application under the provisions of the Regulation mentioned in Table B.2, column 3, the application must comply with the state codes mentioned in table B.2, column 4.

If the chief executive is a referral agency for a development application under the provisions of the Regulation mentioned in Table B.3, column 3, the application must comply with the state codes mentioned in Table B.3, column 4.

How the state codes are complied with

The relevant criteria in the state codes include the purpose statement, performance outcomes and acceptable outcomes.

Acceptable outcomes are provided for most performance outcomes, and represent ways in which the relevant performance outcomes can be met. An application that complies with the applicable acceptable outcomes will satisfy the relevant performance outcome. If an application does not comply with all applicable acceptable outcomes, an alternative solution is proposed, or no acceptable outcome has been provided in the state code, the proposed development must comply with the relevant performance outcome in order to comply with the purpose of the code. If an application does not comply with the performance outcomes then the proposed development must comply with the purpose of the code.

Where multiple acceptable outcomes are provided as a means for achieving compliance with a performance outcome they are to be read in the following way:

- (1) if there is an 'AND' provided between each acceptable outcome, this means all of the acceptable outcomes apply if they are relevant to the application
- (2) if there is an 'OR' between each acceptable outcome and there are only two acceptable outcomes, this means one or the other apply if they are relevant to the application
- (3) if there are three or more acceptable outcomes provided and there is an 'AND' provided between the first two or more acceptable outcomes, then an 'OR' provided between the last two acceptable outcomes, this means that all of the acceptable outcomes apply and one-or-the-other of the last two acceptable outcomes apply (for example, the code lists AO7.1 AND AO7.2 AND AO7.3 OR AO7.4 – this means either AO7.1, AO7.2 and AO7.3 apply OR AO7.1, AO7.2 and AO7.4 apply)
- (4) if there are three or more acceptable outcomes provided and the following statement is provided between the first two acceptable outcomes – 'OR all of the following acceptable outcomes apply' OR 'OR both of the following acceptable outcomes apply'; this means that either the first acceptable outcome applies OR all other acceptable solutions apply from the second acceptable outcome onwards (for example, the code lists AO2.1, OR both of the following acceptable outcomes apply, AO2.2 AND AO2.3 – this means either AO2.1 applies, OR AO2.2 AND AO2.3 apply).

State assessment criteria – Assessment manager

Table B.2: Assessment manager role

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
Aquaculture	Material change of use	Schedule 6, Table 3, Item 10	Module 3: Aquaculture 3.1 Aquaculture state code
Environmentally relevant activities	Material change of use	Schedule 6, Table 3, Item 1	Module 4: Environmentally relevant activities 4.1 Concurrence environmentally relevant activity state code
Declared fish habitat area	Building work or operational work	Schedule 6, Table 3, Item 11	Module 5: Fisheries resources 5.1 Development in or adjacent to a declared fish habitat area state code OR 5.2 Constructing or raising waterway barrier works in fish habitats state code OR 5.3 Removal, destruction or damage of marine plants state code
Native vegetation clearing	Operational work	Schedule 6, Table 3, Item 2	Module 8: Native vegetation clearing The following codes apply based on the geographic location of the application: 8.1 South East Queensland bioregion state code OR 8.2 Brigalow Belt and New England Tablelands state code OR 8.3 Western bioregions state code OR 8.4 Coastal bioregions state code
Queensland heritage	Various aspects of development	Schedule 6, Table 3, Item 7	Module 9: Queensland heritage 9.1 Queensland heritage place state code
Tidal works or development in a coastal management district	Operational work	Schedule 6, Table 3, Item 6	Module 10: Coastal protection 10.1 Tidal works, or development in a coastal management district state code
Water – taking or interfering with	Operational work	Schedule 6, Table 3, Item 3	Module 7: Water resources 7.1 Sustainable management of water resources state code
Watercourse or lake – removal of quarry material	Various aspects of development	Schedule 6, Table 3, Item 5	Module 7: Water resources 7.2 Removal of quarry material state code
Wetland protection area	Operational work	Schedule 6, Table 3, Item 13	Module 11: Wetland protection and wild river areas 11.1 Wetland protection area state code
Wild river area – certain agricultural or animal	Material change of use and operational	Schedule 6, Table 3, Item 12	Module 11: Wetland protection and wild river areas 11.2 Agricultural or animal husbandry activities in a wild river area state code

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
husbandry activities	work		
Contaminated land	Material change of use	Schedule 6, Table 3, Item 9	Module 12: Contaminated land 12.1 Contaminated land state code
Major hazard facilities	Material change of use	Schedule 6, Table 3, Item 4	Module 13: Major hazard facilities 13.1 Major hazard facilities state code
Airport land	Various aspects of development	Schedule 6, Table 2, Item 2	Module 15: Airports 15.1 Airport land use plans 15.2 Strategic airports and aviation facilities state code
Particular dams	Operational work	Schedule 6, Table 3, Item 3A	Module 16: Particular dams 16.1 Referable dams state code

State assessment criteria – Referral agency

Table B.3: Referral agency role

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
Regional plans	Material change of use	Schedule 7, Table 3, Item 12	Module 2: Regional plans 2.1 South East Queensland Regional Plan
	Reconfiguring a lot	Schedule 7, Table 2, Item 39	
Aquaculture	Material change of use	Schedule 7, Table 2, Item 28	Module 3: Aquaculture 3.1 Aquaculture state code
Strategic cropping land	Material change of use	Schedule 7, Table 3, Item 27	Module 6: Strategic cropping land 6.1 Particular development on strategic cropping land state code
	Reconfiguring a lot	Schedule 7, Table 3, Item 28	
Environmentally relevant activities	Material change of use	Schedule 7, Table 2, Item 1	Module 4: Environmentally relevant activities 4.1 Concurrence environmentally relevant activity state code
Wild river area – certain agricultural or animal husbandry activities	Operational work	Schedule 7, Table 2, Item 42	Module 4: Environmentally relevant activities 4.1 Concurrence environmentally relevant activity state code
	Material change of use	Schedule 7, Table 2, Item 41	
Fish habitat area – works or other development in or adjoining	Building work	Schedule 7, Table 2, Item 25	Module 5: Fisheries resources 5.1 Development in or adjacent to a declared fish habitat area state code
	Operational work	Schedule 7, Table 2, Item 26	
	All development	Schedule 7, Table 2, Item 27	

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
Marine plants – removal, destruction or damage	Operational work	Schedule 7, Table 2, Item 30	Module 5: Fisheries resources 5.3 Removal, destruction or damage of marine plants state code
	Reconfiguring a lot	Schedule 7, Table 2, Item 31	
	Material change of use	Schedule 7, Table 2, Item 32	
Schedule 7, Table 3, Item 25			
Native vegetation clearing	Reconfiguring a lot	Schedule 7, Table 2, Item 4	Module 8: Native vegetation clearing The following codes apply based on the geographic location of the application: 8.1 South East Queensland bioregion state code OR 8.2 Brigalow Belt and New England Tablelands bioregion state code OR 8.3 Western bioregions state code OR 8.4 Coastal bioregions state code
	Operational work	Schedule 7, Table 2, Item 5	
	Material change of use	Schedule 7, Table 3, Item 10	
Queensland heritage	Building work	Schedule 7, Table 1, Item 12	Module 9: Queensland heritage 9.1 Queensland heritage place state code
	Various aspects of development	Schedule 7, Table 2, Item 19	
Tidal works or development in a coastal management district	Operational work	Schedule 7, Table 2, Item 13	Module 10: Coastal protection 10.1 Tidal works, or development in a coastal management district state code
		Schedule 7, Table 2, Item 15	Module 14: Maritime safety 14.1 Marine safety state code 14.2 Ship-sourced pollutants reception facilities in marinas state code
		Schedule 7, Table 2, Item 15A	
	Reconfiguring a lot	Schedule 7, Table 2, Item 14	Module 10: Coastal protection 10.1 Tidal works or development in a coastal management district state code
	Material change of use	Schedule 7, Table 3, Item 5	
	Building work	Schedule 7, Table 1, Item 11	
Water – taking or interfering with	Operational work	Schedule 7, Table 2, Item 9	Module 7: Water resources 7.1 Sustainable management of water resources state code
		Schedule 7, Table 2, Item 10	
Watercourse or lake – removal of quarry material	All aspects of development	Schedule 7, Table 2, Item 12	Module 7: Water resources 7.2 Removal of quarry material state code
Waterway barrier works – constructing or raising	Operational work	Schedule 7, Table 2, Item 29	Module 5: Fisheries resources 5.2 Constructing or raising waterway barrier works in fish habitats state code

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
Wetland — land in or near	Reconfiguring a lot	Schedule 7, Table 2, Item 43A	Module 11: Wetland protection and wild river areas 11.1 Wetland protection area state code
	Material change of use	Schedule 7, Table 3, Item 21A	
	Operational work	Schedule 7, Table 2, Item 43B	
Contaminated land	Reconfiguring a lot	Schedule 7, Table 2, Item 22	Module 12: Contaminated land 12.1 Contaminated land state code
	Material change of use	Schedule 7, Table 2, Item 23	
		Schedule 7, Table 3, Item 11	
Major hazard facilities	Material change of use	Schedule 7, Table 2, Item 8	Module 13: Major hazard facilities 13.1 Major hazard facilities state code
Airports	Building work	Schedule 7, Table 1, Item 15	Module 15: Airports 15.2 Strategic airports and aviation facilities state code
	Material change of use	Schedule 7, Table 3, Item 15	Module 15: Airports 15.2 Strategic airports and aviation facilities state code
	Reconfiguring a lot	Schedule 7, Table 2, Item 7A	
Particular dams	Operational work	Schedule 7, Table 2, Item 11	Module 16: Particular dams 16.1 Referable dams state code
Public passenger transport	Building work	Schedule 7, Table 1, Item 14	Module 18: State transport infrastructure protection 18.1 Buildings and structures state code
	Reconfiguring a lot	Schedule 7, Table 2, Item 33	Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code Module 17: Public and active transport 17.1 Public passenger transport state code 17.2 Active transport state code Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code Module 19: State transport network functionality 19.2 Development adjacent to railway or busway state code 19.3 Transport infrastructure and network design state code
	Reconfiguring a lot	Schedule 7, Table 2, Item 33A	Module 17: Public and active transport 17.3 Land use and transport integration state code

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
	Material change of use or operational work	Schedule 7, Table 3, Item 14	<p>Module 1: Community amenity</p> <p>1.1 Managing noise and vibration impacts from transport corridors state code</p> <p>1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 17: Public and active transport</p> <p>17.1 Public passenger transport state code</p> <p>17.2 Active transport state code</p> <p>Module 18: State transport infrastructure protection</p> <p>18.1 Buildings and structures state code</p> <p>18.2 Filling and excavation state code</p> <p>18.3 Stormwater and drainage impacts on state transport infrastructure state code</p> <p>Module 19: State transport network functionality</p> <p>19.2 Development adjacent to railway, busway and light rail state code</p> <p>19.3 Transport infrastructure and network design state code</p>
	Material change of use	Schedule 7, Table 3, Item 14A	<p>Module 17: Public and active transport</p> <p>17.3 Land use and transport integration state code</p>
Railways	Building work	Schedule 7, Table 1, Item 16	<p>Module 1: Community amenity</p> <p>1.1 Managing noise and vibration impacts from transport corridors state code</p> <p>1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 18: State transport infrastructure protection</p> <p>18.1 Buildings and structures state code</p> <p>18.2 Filling and excavation state code</p> <p>18.3 Stormwater and drainage impacts on state transport infrastructure state code</p> <p>Module 19: State transport network functionality</p> <p>19.2 Development adjacent to railway, busway and light rail state code</p>
	Material change of use	Schedule 7, Table 3, Item 15A	<p>Module 1: Community amenity</p> <p>1.1 Managing noise and vibration impacts from transport corridors state code</p> <p>1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 17: Public and active transport</p> <p>17.1 Public passenger transport state code</p> <p>17.2 Active transport state code</p> <p>Module 18: State transport infrastructure protection</p> <p>18.1 Buildings and structures state code</p> <p>18.2 Filling and excavation state code</p> <p>18.3 Stormwater and drainage impacts on state transport infrastructure state code</p>

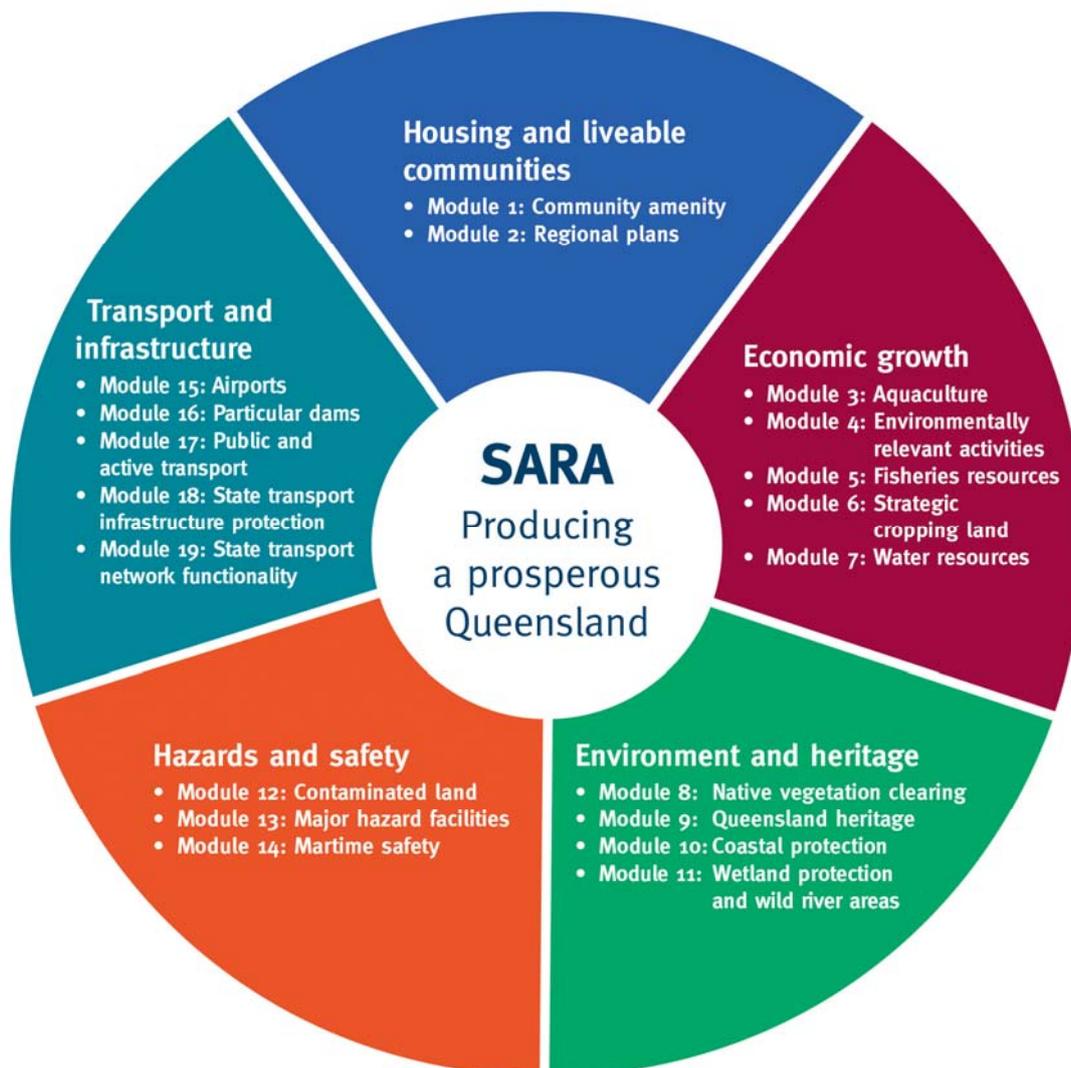
Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
			<p>Module 19: State transport network functionality 19.2 Development adjacent to railway or busway state code 19.3 Transport infrastructure and network design state code</p>
	Operational work	Schedule 7, Table 3, Item 15B	<p>Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code</p>
	Reconfiguring a lot	Schedule 7, Table 2, Item 34	<p>Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 17: Public and active transport 17.1 Public passenger transport state code 17.2 Active transport state code</p> <p>Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code</p> <p>Module 19: State transport network functionality 19.2 Development adjacent to railway, busway and light rail state code 19.3 Transport infrastructure and network design state code</p>
State-controlled road	Building work	Schedule 7, Table 1, Item 8	<p>Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code</p>
	Reconfiguring a lot	Schedule 7, Table 2, Item 2	<p>Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code</p> <p>Module 19: State transport network functionality 19.1 Access to state-controlled road state code 19.3 Transport infrastructure and network design state code</p>

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
	Operational work	Schedule 7, Table 2, Item 3	Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code Module 19: State transport network functionality 19.1 Access to state-controlled road state code
		Schedule 7, Table 3, Item 1A	
	Material change of use	Schedule 7, Table 3, Item 1	Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code Module 19: State transport network functionality 19.1 Access to state-controlled road state code 19.3 Transport infrastructure and network design state code
State transport infrastructure (thresholds)	Various aspects of development	Schedule 7, Table 3, Item 2	Module 17: Public and active transport 17.1 Public passenger transport state code 17.2 Active transport state code Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code Module 19: State transport network functionality 19.2 Development adjacent to railway, busway and light rail state code 19.3 Transport infrastructure and network design state code
State-controlled transport tunnels	Reconfiguring a lot	Schedule 7, Table 2, Item 34A	Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code Module 19: State transport network functionality 19.2 Development adjacent to railway, busway or light rail state code

Matter of interest	Development type	Relevant provisions of the Regulation	Relevant module and codes
	Material change of use or operational work	Schedule 7, Table 3, Item 15C	<p>19.3 Transport infrastructure and network design state code</p> <p>Module 1: Community amenity 1.1 Managing noise and vibration impacts from transport corridors state code 1.2 Managing air and lighting impacts from transport corridors state code</p> <p>Module 18: State transport infrastructure protection 18.1 Buildings and structures state code 18.2 Filling and excavation state code 18.3 Stormwater and drainage impacts on state transport infrastructure state code</p> <p>Module 19: State transport network functionality 19.2 Development adjacent to railway, busway and light rail state code 19.3 Transport infrastructure and network design state code</p>

Part C: State codes

This section contains the state codes with respect to the following themes.



Module 1. Community amenity

1.1 Managing noise and vibration impacts from transport corridors state code

1.1.1 Purpose

The purpose of the code is to:

- (1) ensure that state transport operations and infrastructure are protected from development on nearby land that may lead to operational constraints on the state's transport system
- (2) protect the community from significantly adverse impacts on health, wellbeing and quality of life resulting from environmental emissions (noise and vibration) generated by existing and future state transport operations and infrastructure.

This will be achieved through ensuring that land affected by environmental emissions (noise and vibration) from state-controlled transport operations and infrastructure is developed in a way that reduces the community's exposure to such emissions.

Note: This code applies to all development applications for a sensitive development.

1.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Building work	Table 1.1.1
Material change of use	Table 1.1.1
Reconfiguring a lot	Table 1.1.1

Table 1.1.1: Building work, material change of use and reconfiguring a lot

Performance outcomes	Acceptable outcomes
Residential buildings near a state-controlled road or type 1 multi modal corridor	
<p>PO1 Development involving an <u>accommodation activity</u> that is a <u>residential building</u> achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u>.</p>	<p>AO1.1 All facades of a <u>residential building</u> exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 60 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am ≤ 40 dB(A))</p> <p>(2) ≤ 63 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am > 40 dB(A)).</p> <p>AND</p> <p>AO1.2 <u>Private open space</u>[*] in residential land uses exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 57 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight ≤ 45 dB(A))</p>

Performance outcomes	Acceptable outcomes
	<p>(2) ≤ 60 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight >45 dB(A)).</p> <p>AND</p> <p>AO1.3 Every <u>passive recreation area</u>* exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meets the following external noise criteria^{^#}:</p> <p>(1) 63 dB(A) L_{10} (12 hour) free field (between 6 am and 6 pm).</p> <p>AND</p> <p>AO1.4 For a <u>residential building</u>, not located in a <u>transport noise corridor</u>, every <u>habitable room</u> is designed, sited and constructed to meet the following internal noise criteria^{^#}:</p> <p>(1) ≤ 35 dB(A) L_{eq} (1 hour) (maximum hour over 24 hours).</p> <p>AND</p> <p>AO1.5 A <u>residential building</u> not located in a <u>transport noise corridor</u>, is designed, sited and constructed to incorporate noise attenuation treatments in accordance with <i>AS3671-1989 Acoustics – Road traffic noise intrusion – building siting and construction</i>.</p> <p>Note: Noise levels from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p> <p>Editor’s note: <u>Habitable rooms of residential buildings</u> located within a <u>transport noise corridor</u> must comply with <i>the Queensland Development Code MP4.4 Buildings in a transport noise corridor</i>, Queensland Government, 2010. <u>Transport noise corridors</u> are mapped on the Department of Housing and Public Works website.</p>
Residential buildings near a railway with more than 15 passing trains per day or a type 2 multi modal corridor	
<p>PO2 Development involving an <u>accommodation activity</u> that is a <u>residential building</u> achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u>.</p>	<p>AO2.1 All <u>facades of a residential building</u> exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 65 dB(A) L_{eq} (24 hour) facade corrected</p> <p>(2) ≤ 87 dB(A) L_{eq} (single event maximum sound pressure level) facade corrected.</p> <p>AND</p> <p>AO2.2 Every <u>private open space</u> and <u>passive recreation area</u>* exposed to noise from a <u>railway</u> with more than 15 passing trains per day or <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 62 dB(A) L_{eq} (24 hour) free field</p> <p>(2) ≤ 84 dB(A) L_{eq} (single event maximum sound pressure level) free field.</p> <p>AND</p> <p>AO2.3 For a <u>residential building</u>, not located in a <u>transport noise corridor</u>, every <u>habitable room</u> is designed, sited and constructed to meet the following internal noise criteria^{^#}:</p> <p>(1) ≤ 45 dB(A) single event maximum sound pressure level (railway).</p> <p>Note: Noise levels from <u>railways</u> or <u>type 2 multi-modal corridors</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of</i></p>

Performance outcomes	Acceptable outcomes
	<p><i>environmental noise.</i></p> <p>Editor's note: <u>Habitable rooms of residential buildings</u> located within a <u>transport noise corridor</u> must comply with <i>the Queensland development code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2010</i>. <u>Transport noise corridors</u> are mapped on the Department of Housing and Public Works website.</p>
Accommodation activities or residential care facilities near a state-controlled road or type 1 multi modal corridor	
<p>PO3 Development involving an <u>accommodation activity</u> or <u>residential care facility</u> achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u>.</p>	<p>AO3.1 All <u>facades of an accommodation activity</u> and <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 60 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am ≤ 40 dB(A))</p> <p>(2) ≤ 63 dB(A) L_{10} (18 hour) facade corrected (measured L_{90} (8 hour) free field between 10 pm and 6 am > 40 dB(A)).</p> <p>AND</p> <p>AO3.2 Every <u>private open space</u>* in an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 57 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight ≤ 45 dB(A))</p> <p>(2) ≤ 60 dB(A) L_{10} (18 hour) free field (measured L_{90} (18 hour) free field between 6 am and 12 midnight > 45 dB(A)).</p> <p>AND</p> <p>AO3.3 Every <u>passive recreation area</u>* in an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) 63 dB(A) L_{10} (12 hour) free field (between 6 am and 6 pm).</p> <p>AND</p> <p>AO3.4 Every <u>habitable room</u> in an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤ 35 dB(A) L_{eq} (1 hour) (maximum hour over 24 hours).</p> <p>Note: Noise levels from <u>state-controlled roads</u> or <u>type 1 multi-modal corridors</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>
Accommodation activities or residential care facilities near a railway with more than 15 passing trains per day or a type 2 multi modal corridor	
<p>PO4 Development involving an <u>accommodation activity</u> or <u>residential care facility</u> achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the</p>	<p>AO4.1 All <u>facades of an accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p>

Performance outcomes	Acceptable outcomes
<p>development from noise generated by <u>railways</u> with more than 15 passing trains per day or <u>type 2 multi-modal corridors</u>.</p>	<p>(1) ≤ 65 dB(A) L_{eq} (24 hour) facade corrected (2) ≤ 87 dB(A) L_{eq} (single event maximum sound pressure level) facade corrected.</p> <p>AND</p> <p>AO4.2 Every <u>private open space</u> and <u>passive recreation area</u>* in an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 62 dB(A) L_{eq} (24 hour) free field (2) ≤ 84 dB(A) L_{eq} (single event maximum sound pressure level) free field.</p> <p>AND</p> <p>AO4.3 Every <u>habitable room</u> in an <u>accommodation activity</u> or a <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤ 45 dB(A) single event maximum sound pressure level (<u>railway</u>).</p> <p>Note: Noise levels from <u>railways</u> or <u>type 2 multi-modal corridors</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>
Accommodation activities or residential care facilities near a busway or light rail	
<p>PO5 Development involving an <u>accommodation activity</u> or <u>residential care facility</u> achieves acceptable noise levels for residents and visitors by mitigating adverse impacts on the development from noise generated by a <u>busway</u> or <u>light rail</u>.</p>	<p>AO5.1 All facades of an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 55 dB(A) L_{eq} (1 hour) facade corrected (maximum hour between 6 am and 10 pm) (2) ≤ 50 dB(A) L_{eq} (1 hour) facade corrected (maximum hour between 10 pm and 6 am) (3) ≤ 64 dB(A) L_{max} (1 hour) facade corrected (between 10 pm and 6 am).</p> <p>AND</p> <p>AO5.2 Every <u>private open space</u> and <u>passive recreation area</u>* in an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤ 52 dB(A) L_{eq} (1 hour) free field (maximum hour between 6 am and 10 pm) (2) ≤ 66 dB(A) L_{max} free field.</p> <p>AND</p> <p>AO5.3 Every <u>habitable room</u> of an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤ 35 dB(A) L_{eq} (1 hour) (maximum hour over 24 hours).</p> <p>Note: Noise levels from a <u>busway</u> or <u>light rail</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>

Performance outcomes	Acceptable outcomes
Particular development near a state-controlled road or type 1 multi modal corridor	
<p>P06 Development involving a:</p> <ol style="list-style-type: none"> (1) <u>child care centre</u>, or (2) <u>community use</u>, or (3) <u>educational establishment</u>, or (4) <u>health care service</u>, or (5) <u>hospital</u>, or (6) <u>office</u>, or (7) <u>place of worship</u> <p>achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u>.</p>	<p>A06.1 All facades of buildings for the particular development exposed to noise from <u>state-controlled roads</u> or <u>type 1 multi-modal corridors</u> meet the following external noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 58 dB(A) L_{10} (1 hour) facade corrected (maximum hour during normal opening hours). <p>AND</p> <p>A06.2 Every <u>outdoor education area</u> and <u>passive recreation area</u>* for the particular development exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 63 dB(A) L_{10} (12 hours) free field (between 6 am and 6 pm). <p>AND</p> <p>A06.3 A <u>childcare centre</u>, <u>health care service</u>, <u>hospital</u>, <u>educational establishment</u>, library and <u>place of worship</u> exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 35 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). <p>AND</p> <p>A06.4 A <u>community use</u> (except for a library) and <u>office</u> exposed to noise from a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 45 dB(A) L_{eq} (1 hour) (maximum hour during opening hours). <p>Note: Noise levels from <u>state-controlled roads</u> or <u>type 1 multi-modal corridors</u> are to be measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>
Particular development near a railway (with more than 15 passing trains per day) or a type 2 multi modal corridor	
<p>P07 Development involving a:</p> <ol style="list-style-type: none"> (1) <u>child care centre</u>, or (2) <u>community use</u>, or (3) <u>educational establishment</u>, or (4) <u>health care service</u>, or (5) <u>hospital</u>, or (6) <u>office</u>, or (7) <u>place of worship</u> <p>achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u>.</p>	<p>A07.1 All facades of buildings for the particular development exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 65 dB(A) L_{eq} (1 hour) facade corrected (maximum hour during normal opening hours) (2) ≤ 87 dB(A) (single event maximum sound pressure level) facade corrected. <p>AND</p> <p>A07.2 Every <u>outdoor education area</u> and <u>passive recreation area</u>* exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following external noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 62 dB(A) L_{eq} (12 hour) free field (between 6 am and 6 pm) (2) ≤ 84 dB(A) (single event maximum sound pressure level) free field. <p>AND</p> <p>A07.3 Sleeping areas in a <u>child care centre</u>, <u>health care service</u> or <u>hospital</u> exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <ol style="list-style-type: none"> (1) ≤ 45 dB(A) single event maximum sound pressure level (<u>railway</u>).

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p>A07.4 Other rooms in a <u>child care centre</u>, <u>health care service</u> or <u>hospital</u> exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤50 dB(A) single event maximum sound pressure level (<u>railway</u>).</p> <p>AND</p> <p>A07.5 An <u>educational establishment</u>, library or <u>place of worship</u> exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤50 dB(A) single event maximum sound pressure level (<u>railway</u>).</p> <p>AND</p> <p>A07.6 A <u>community use</u> (except library) or <u>office</u> exposed to noise from a <u>railway</u> with more than 15 passing trains per day or a <u>type 2 multi-modal corridor</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤55 dB(A) single event maximum sound pressure level (<u>railway</u>).</p> <p>Note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>
Particular development near a busway or light rail	
<p>PO8 Development involving a:</p> <p>(1) <u>child care centre</u>, or</p> <p>(2) <u>community use</u>, or</p> <p>(3) <u>educational establishment</u>, or</p> <p>(4) <u>health care service</u>, or</p> <p>(5) <u>hospital</u>, or</p> <p>(6) <u>office</u>, or</p> <p>(7) <u>place of worship</u></p> <p>achieves acceptable noise levels for workers and patrons by mitigating adverse impacts on the development from noise generated by a <u>busway</u> and <u>light rail</u>.</p>	<p>A08.1 All facades of buildings for the particular development exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤55 dB(A) L_{eq} (1 hour) facade corrected (maximum hour during normal opening hours).</p> <p>AND</p> <p>A08.2 Every <u>outdoor education area</u> and <u>passive recreation area</u>[*] exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following external noise criteria^{^#}:</p> <p>(1) ≤52 dB(A) L_{eq} (1 hour) free field (maximum hour during normal opening hours)</p> <p>(2) ≤66 dB(A) L_{max} free field (during normal opening hours).</p> <p>AND</p> <p>A08.3 Every <u>childcare centre</u>, <u>health care service</u>, <u>hospital</u>, <u>educational establishment</u>, library and <u>place of worship</u> exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤35 dB(A) L_{eq} (1 hour) (maximum hour during opening hours).</p> <p>AND</p> <p>A08.4 A <u>community use</u> (except library) or <u>office</u> exposed to noise from a <u>busway</u> or <u>light rail</u> meet the following internal noise criteria^{^#}:</p> <p>(1) ≤45 dB(A) L_{eq} (1 hour) (maximum hour during opening hours).</p> <p>Note: Areas exposed to noise from a <u>busway</u> or <u>light rail</u> are measured in accordance with <i>AS1055.1-1997 Acoustics – Description and measurement of environmental noise</i>.</p>
Noise barriers	
<p>PO9 Noise barriers or earth mounds erected to mitigate noise from transport operations and</p>	<p>A09.1 Where adjacent to a <u>state-controlled road</u> or <u>type 1 multi-modal corridor</u>, noise barriers and earth mounds are designed, sited and</p>

Performance outcomes	Acceptable outcomes
<p>infrastructure are designed, sited and constructed to ensure:</p> <ol style="list-style-type: none"> (1) adequate clearances to <u>state transport infrastructure</u> to incorporate safety requirements and facilitate maintenance requirements (2) privacy, security and amenity of surrounding properties are not significantly impacted (3) appropriate colour schemes, textures and landscaping are used in barrier design (4) design of noise barriers complements existing terrain (5) fauna movement is maintained along appropriate corridors (6) noise barriers are durable and fit for purpose. 	<p>constructed in accordance with Chapter 5 Integrated Noise Barrier Design of the <i>Road traffic noise management: Code of practice</i>, Department of Transport and Main Roads, 2007.</p> <p>OR</p> <p>A09.2 Where adjacent to a <u>railway</u> or <u>type 2 multi-modal corridor</u>, noise barriers and earth mounds are designed, sited and constructed in accordance with <i>Queensland Rail Systems and Capability Technical Requirement – MCE-SR-014 Design of noise barriers adjacent to railways</i>, Queensland Rail, 2010 and Part B.7 (d) of the <i>Guide for development in a railway environment</i>, Department of Infrastructure and Planning, 2010.</p> <p>Editor's note: The <i>Guide for development in a railway environment</i> is part of the <i>Transit oriented development guide: guide for practitioners in Queensland</i>, Department of Infrastructure and Planning, 2010.</p>
Vibration	
<p>PO10 Development mitigates adverse impacts on the development from vibration generated by transport operations and infrastructure.</p>	<p>No acceptable outcome is prescribed.</p>

* Note: The noise criteria for private open space, outdoor education area or passive recreation area only apply where these types of open space are included in a development proposal. Provision of private open space, outdoor education areas or passive recreation areas must comply with the relevant requirements under the local government planning scheme.

^ Editor's note: The noise criteria for development types are stated in the *Policy for development on land affected by environmental emissions from transport and transport infrastructure*, Department of Transport and Main Roads, 2013.

Editor's note: To demonstrate compliance with this acceptable outcome, it is recommended that a noise assessment report be prepared.

1.2 Managing air and lighting impacts from transport corridors state code

1.2.1 Purpose

The purpose of the code is to:

- (1) ensure that state transport operations and infrastructure are protected from development on nearby land that may lead to operational constraints on the state's transport system
- (2) protect the community from significantly adverse impacts on health, community wellbeing and quality of life resulting from environmental emissions (air particles and light) generated by existing and future state-controlled transport operations and infrastructure.

This will be achieved through ensuring that land affected by environmental emissions (air particles and light) from state-controlled transport operations and infrastructure is developed in a way that reduces the community's exposure to such emissions.

Note: This code applies to all development applications for a sensitive development.

1.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Building work	Table 1.2.1
Material change of use	Table 1.2.1
Reconfiguring a lot	Table 1.2.1

Table 1.2.1: Building work, material change of use and reconfiguring a lot

Performance outcomes	Acceptable outcomes
Air quality	
<p>PO1 Development involving <u>sensitive development</u> achieves acceptable levels of air quality for occupiers or users of the development by mitigating adverse impacts on the development from air emissions generated by <u>state transport infrastructure</u>.</p>	<p>AO1.1 Every <u>private open space</u> and <u>passive recreation area</u> of an <u>accommodation activity</u> or <u>residential care facility</u> (other than a <u>residential building</u>) meet the air quality objectives in the <i>Environmental Protection (Air) Policy 2008</i> for the following indicators:</p> <ol style="list-style-type: none"> (1) carbon monoxide (2) nitrogen dioxide (3) sulphur dioxide (4) photochemical oxidants (5) respirable particulate matter (PM10) (6) fine particulate matter (PM2.5) (7) lead (8) toluene (9) formaldehyde (10) xylenes. <p>AND</p> <p>AO1.2 Every <u>outdoor education area</u> and <u>passive recreation area</u> of an <u>educational establishment</u>, <u>childcare centre</u>, <u>health care service</u>, <u>hospital</u>, <u>community use</u>, <u>place of worship</u> and <u>office</u> meet the air quality objectives in the <i>Environmental Protection (Air) Policy 2008</i> for the following indicators:</p> <ol style="list-style-type: none"> (1) carbon monoxide (2) nitrogen dioxide (3) sulphur dioxide (4) photochemical oxidants (5) respirable particulate matter (PM10) (6) fine particulate matter (PM2.5) (7) lead (8) toluene (9) formaldehyde (10) xylenes.
Lighting impacts	
<p>PO2 Development involving an <u>accommodation activity</u>, <u>residential care facility</u>, <u>health care service</u> or <u>hospital</u> achieves acceptable levels of amenity for residents and patients by mitigating</p>	<p>AO2.1 Buildings for an <u>accommodation activity</u>, <u>residential care facility</u> (other than a <u>residential building</u>), <u>health care service</u> and <u>hospital</u> are designed, sited and constructed to incorporate treatments to attenuate ingress of artificial lighting from <u>state transport infrastructure</u> during the hours of</p>

Performance outcomes	Acceptable outcomes
lighting impacts from <u>state transport infrastructure</u> .	10 pm – 6 am.

1.3 Reference documents

Department of Transport and Main Roads 2013 [Policy for development on land affected by environmental emissions from transport and transport infrastructure](#)

Department of Transport and Main Roads 2013 [Road traffic noise management: Code of practice](#)

Queensland Government 2008 [Environmental Protection \(Air\) Policy](#)

Queensland Government 2008 [Environmental Protection \(Noise\) Policy](#)

Department of Infrastructure and Planning 2010 [Transit oriented development guide](#) (including the *Guide to development in a railway environment*)

Queensland Rail 2010 [MCE_SR_014 Design of noise barriers adjacent to railways, Systems and Capability Technical Requirement](#)

Standards Australia 1997 [AS1055.1-1997 Acoustics - Description and measurement of environmental noise](#)

Standards Australia 1989 [AS3671 Acoustics - Road traffic noise intrusions - Building siting and construction](#)

Queensland Government Queensland development code, [MP4.4 Buildings in a transport noise corridor](#)

Department of State Development, Infrastructure and Planning 2013 [Queensland Planning Provisions version 3.0 Building code of Australia](#)

Department of Housing and Public Works [Transport noise corridor search tool](#)

1.4 Glossary of terms

Accommodation activity means accommodation activities (including caretaker's accommodation, community residence, dual occupancy, dwelling house, dwelling unit, hostel, multiple dwelling, relocatable home park, retirement facility, short-term accommodation and tourist parks).

Busway see the *Transport Infrastructure Act 1994*, schedule 6.

Editor's note: Busway means a route especially designed and constructed for, and dedicated to, the priority movement of buses for passenger transport purposes; places for the taking on and letting off of bus passengers using the route.

Child care centre see the standard planning scheme provisions.

Editor's note: Child care centre means the premises used for minding or care, but not residence, of children.

Community use see the standard planning scheme provisions.

Editor's note: Community use means premises used for providing artistic, social or cultural facilities and community support services to the public, and may include the ancillary preparation and provision of food and drink.

Educational establishment see the standard planning scheme provisions.

Editor's note: Educational establishment means premises used for training and instruction designed to impart knowledge and develop skills. The use may include after school care for students or on-site student accommodation.

Habitable Room see the Building Code of Australia.

Editor's note: Habitable room means a room used for normal domestic activities, and includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom but excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

Health care services see the standard planning scheme provisions.

Editor's note: Health care services means premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Hospital see the standard planning scheme provisions.

Editor's note: Hospital means premises used for medical or surgical care or treatment of patients, whether or not residing on the premises. The use may include ancillary accommodation for employees and ancillary activities directly serving the needs of patients and visitors.

Light rail see the *Transport infrastructure Act 1994*, schedule 6.

Editor's note: Light rail means a route wholly or partly dedicated to the priority movement of light rail vehicles for passenger transport purposes, whether or not the route was designed and constructed for those purposes as well as other purposes; places for the taking on and letting off of light rail vehicle passengers using the route.

Office see the standard planning scheme provisions.

Editor's note: Office means premises used for an administrative, secretarial or management service or the practice of a profession, where no goods or materials are made, sold or hired, and where the principal activity provides for the following:

- (1) business or professional advice
- (2) service of goods that are not physically on the premises
- (3) office-based administrative functions of an organisation.

Outdoor education area means outdoor areas intended for use for the training or teaching of persons. This term does not include playgrounds or outdoor sport and recreational areas.

Editor's note: This definition has been sourced from the *Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure (Version 2)*. Department of Transport and Main Roads, 2013

Passive recreation area means an area used for passive recreation such as a park, playground or walking track. This term does not include drainage reserves or channels, landscape buffer strips, environmental areas or corridors, or conservation areas or corridors.

Editor's note: This definition has been sourced from the Department of Transport and Main Roads *Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure (Version 2)*. Department of Transport and Main Roads, 2013.

Private open space means an outdoor space for the exclusive use of occupants of a building.

Place of worship see the standard planning scheme provisions.

Editor's note: Place of worship means a premises used by an organised group for worship and religious activities. The use may include ancillary facilities for social and educational activities.

Railway see the Sustainable Planning Regulation 2009.

Editor's note: Railway means land on which railway transport infrastructure or other rail infrastructure is situated.

Residential building means a class 1, class 2, class 3 or class 4 building as defined in the *Building Code of Australia*.

Residential care facility see the standard planning scheme provisions.

Editor's note: Residential care facility means a residential use of premises for supervised accommodation, where the use includes medical and other support facilities for residents who cannot live independently and require regular nursing or personal care.

Sensitive development means:

- (1) an accommodation activity, or
- (2) a residential care facility, or
- (3) an educational establishment, or
- (4) a child care centre, or
- (5) a health care service, or
- (6) a hospital, or
- (7) a community use, or
- (8) a place of worship, or
- (9) an office, or
- (10) a development with a combination of uses (1) to (9).

State-controlled road see the *Transport Infrastructure Act 1994*, schedule 6.

Editor's note: State-controlled road means a road or land, or part of a road or land, declared under section 24 of the *Transport Infrastructure Act 1994* to be a state-controlled road.

State transport infrastructure means any of the following:

- (1) a state-controlled road
- (2) busway transport infrastructure under the *Transport Infrastructure Act 1994*
- (3) light rail transport infrastructure under the *Transport Infrastructure Act 1994*
- (4) rail transport infrastructure under the *Transport Infrastructure Act 1994*
- (5) other rail infrastructure under the *Transport Infrastructure Act 1994*
- (6) active transport infrastructure under the *Transport Planning and Coordination Act 1994*.

Transport noise corridor see the *Building Act 1975*, chapter 8B

Editor's note: Transport noise corridor means land designated under chapter 8B of the *Building Act 1975* as a transport noise corridor.

Type 1 multi-modal corridor means a transport corridor that includes a state-controlled road and at least one of the following:

- (1) a busway
- (2) light rail
- (3) a railway with 15 or less passing trains per day.

Type 2 multi-modal corridor means a transport corridor that includes a railway with more than 15 passing trains per day and at least one of the following:

- (1) a state-controlled road
- (2) a busway
- (3) light rail.

Abbreviations

dB(A) – decibels measured on the 'A' frequency weighting network

TMR – Department of Transport and Main Roads

Module 2. Regional plans

2.1 South East Queensland Regional Plan

2.1.1 Background

The *South East Queensland Regional Plan 2009–2031*, Department of Infrastructure and Planning, 2009 (SEQ Regional Plan) is a statutory instrument made under the Act. The purpose of the SEQ Regional Plan is to manage regional growth and change in the most sustainable way to protect and enhance quality of life in the SEQ region. State planning regulatory provisions (*South East Queensland Regional Plan 2009-2013 State planning regulatory provisions*, Department of Infrastructure and Planning, 2009) (regulatory provisions) support the SEQ Regional Plan and are to be read in conjunction with it.

If the chief executive is a referral agency for a development application under the provisions of the Regulation mentioned in Part B, Table B.3, column 3, the application must comply with the regulatory provisions.

Division 2 of the regulatory provisions generally apply to a material change of use in the Regional Landscape and Rural Production Area, the Rural Living Area or a Development Area, however there are exemptions prescribed in the regulatory provisions.

Division 3 of the regulatory provisions generally apply to reconfiguring a lot in the Regional Landscape and Rural Production Area or a Development Area, however there are exemptions prescribed in the regulatory provisions.

The Regional Landscape and Rural Production Area under the SEQ Regional Plan identifies land with regional landscape, rural production or other non-urban values. The regulatory provisions protect this land from inappropriate development, particularly urban or rural residential development.

For the Regional Landscape and Rural Production Area, the regulatory restrict:

- (1) further fragmentation of land holdings
- (2) urban development, except within established villages
- (3) the expansion of rural residential development outside areas already allocated in local government planning schemes.

The regulatory provisions support diversification of rural economies by allowing a range of developments, including:

- (1) small to medium-scale tourist activities
- (2) small-scale industry and business activities
- (3) sport and recreation facilities.

The Rural Living Area under the SEQ Regional Plan comprises locations designated for rural residential development in local government planning schemes, and where further rural residential development through infill and consolidation is permitted under the SEQ Regional Plan. The regulatory provisions allow the development of land in the Rural Living Area for rural residential purposes.

Development Areas provide additional land supply in areas within the Urban Footprint adjacent or proximate to existing infrastructure networks. Development Areas are areas planned to accommodate regional dwelling and employment targets. They require comprehensive planning to coordinate future development with infrastructure delivery. The regulatory provisions ensure that development does not adversely affect the future development intent of these areas.

2.1.2 Criteria for assessment

Please refer to the *South East Queensland Regional Plan 2009-2013 State planning regulatory provisions*, Department of Infrastructure and Planning, 2009.

2.2 Reference documents

Department of Infrastructure and Planning, 2009 *South East Queensland Regional Plan 2009–2031 – Part F: South East Queensland Regional Plan 2009–2031 State planning regulatory provisions*.

2.3 Glossary of terms

Please refer to the *South East Queensland Regional Plan 2009–2031*, Department of Infrastructure and Planning, 2009.

Module 3. Aquaculture

3.1 Aquaculture area state code

3.1.1 Purpose

The purpose of this code is to ensure aquaculture industry development and practices are ecologically sustainable in a way that also supports economic growth. The aquaculture area state code ensures:

- (1) fisheries and aquaculture fisheries resources (proposed brood stock and culture species) for which aquaculture may be appropriately carried out
- (2) the prevention, control and eradication of disease in fish
- (3) the containment of aquaculture fisheries resources to prevent escape or accidental release
- (4) the ability to prevent the entry of fisheries resources into the development area
- (5) the ability to meet food and other relevant supply chain standards
- (6) the standards will be met by features of the development, such as the location of ponds and the aquaculture furniture that will be used
- (7) any proposed disturbance or impact to fisheries resources or fish habitat, or displacement of commercial, recreational or Indigenous fishing is managed
- (8) monitoring where required
- (9) rehabilitation of the development area if the development is abandoned or ends.

Editor's note: Ensuring biosecurity issues are considered in the ongoing operation of aquaculture facilities is critical to protect fisheries resources and to ensure the long-term economic viability of the fishing industry in Queensland. Where development for an aquaculture facility is approved, certain conditions must be adhered to as part of the ongoing operation of the facility. Applicants can contact the Department of Agriculture, Fisheries and Forestry for more detailed information on operating an aquaculture facility.

3.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 3.1.1

Table 3.1.1: Material change of use

Performance outcomes	Acceptable outcomes
Location	
<p>PO1 The location of the <u>aquaculture</u> development is consistent with environmental and operational factors that should influence site selection.</p> <p>Editor's note: Further information on site selection, and the environmental, operational and commercial factors that should influence site selection, is available on the Department of Agriculture, Fisheries and Forestry</p>	<p>AO1.1 The site meets the recommendations detailed in the guideline <i>Site identification for aquaculture: Assessment of chemical contamination in site selection</i>, Department of Primary Industries and Fisheries, 2005.</p>

Performance outcomes	Acceptable outcomes
<p>website (www.daff.qld.gov.au).</p> <p>Editor's note: Where a site has issues that may otherwise preclude a site, an applicant should demonstrate how these issues have been addressed, including sign off by a Registered Professional Engineer of Queensland (RPEQ).</p>	
<p>PO2 Development on or in Queensland waters or unallocated tidal State <u>land</u> is undertaken for <u>prescribed aquaculture</u> only.</p> <p>Editor's note: A <u>resource allocation authority</u> is required under the <i>Fisheries Act 1994</i> before certain development can proceed. See also section 216 of the Fisheries Regulation 2008.</p>	No acceptable outcome is prescribed.
<p>PO3 If the development is located in a <u>marine park</u>, it is within a zone appropriate for the <u>aquaculture</u> development.</p> <p>Note: Refer to the relevant marine park zoning plan:</p> <ol style="list-style-type: none"> (1) <u>Marine parks</u> (Great Barrier Reef Coast) zoning plan 2004 (2) <u>Marine parks</u> (Great Sandy) zoning plan 2006 (3) <u>Marine parks</u> (Moreton Bay Marine) zoning plan 2008. 	No acceptable outcome is prescribed.
<p>PO4 <u>Aquaculture</u> development is located to avoid or minimise impacts on the natural environment.</p> <p>Editor's note:</p> <ol style="list-style-type: none"> (1) All necessary approvals that regulate impacts to the natural environment must be obtained prior to the commencement of any construction activities. (2) Separate approvals may be required under other state or federal legislation. (3) Bilateral agreements may apply. 	No acceptable outcome is prescribed.
Development and construction of an aquaculture facility	
<p>PO5 Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish habitats</u>.</p>	<p>A05.1 The development does not impact existing infrastructure or access arrangements to <u>fisheries resources</u> and <u>fish habitats</u>.</p> <p>OR</p> <p>A05.2 The development provides community <u>fishing</u> access through linkages between the commercial and recreational fisheries, and infrastructure, services and facilities.</p>
<p>PO6 Development that has the potential to impact the operations and productivity of Queensland commercial or recreational fisheries (due to adjustment of fisheries) mitigates any adverse impacts due to adjustment of fisheries.</p>	<p>A06.1 If the development:</p> <ol style="list-style-type: none"> (1) restricts access to an area, or (2) restricts <u>fishing</u> activities, or (3) diminishes access to <u>fisheries resources</u> in some other way, then – <ol style="list-style-type: none"> (a) affected commercial fishers are adequately compensated (b) any adverse impacts of development on commercial <u>fisheries</u> or recreational <u>fishing</u> is appropriately offset.

Performance outcomes	Acceptable outcomes
<p>PO7 The development will not increase the risk of mortality, <u>disease</u> or injury to, or compromise the health and productivity of <u>fisheries resources</u>.</p> <p>Editor's note: Refer to relevant <i>Fish salvage guidelines</i>, Department of Primary Industries and Fisheries, 2004.</p>	<p>A07.1 Suitable habitat conditions, such as including but not limited to water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> and <u>fish habitats</u> affected by the development.</p> <p>AND</p> <p>A07.2 Herbicides are not used on, or where they may drift on, to <u>fisheries resources</u> or <u>fish habitats</u>.</p> <p>AND</p> <p>A07.3 <u>Fish</u> will not become trapped or stranded as a result of the development.</p> <p>OR</p> <p>A07.4 Risks of <u>fish</u> stranding occurring have been identified and are demonstrably manageable.</p> <p>Editor's note: This can be demonstrated through preparing a <u>fish</u> salvage plan. Further guidance is available in the <i>Fish salvage guidelines</i>, Department of Primary Industries and Fisheries, 2004.</p>
<p>PO8 Development resulting in drainage or disturbance of acid sulphate soil is managed to prevent impacts on <u>fisheries resources</u> and <u>fish habitats</u>.</p>	<p>A08.1 Run-off and leachate from disturbed or oxidised acid sulphate soils is contained and treated, and not released to a <u>waterway</u> or other <u>fish habitat</u>.</p> <p>Editor's note: Management of acid sulphate soils should to comply with the <i>Queensland acid sulfate soils technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>
<p>PO9 The <u>aquaculture</u> facility is designed, constructed, and can be managed and maintained appropriately for the <u>aquaculture fisheries resource</u>.</p> <p>Editor's note: Further guidance is available in the aquaculture policy <i>Management arrangements for translocation of live aquatic organisms (transport between bioregions) for aquaculture FAMOPo15</i>, Department of Employment, Economic Development and Innovation, 2011</p>	<p>A09.1 The location and design of the <u>aquaculture</u> facility is appropriate for the proposed species.</p> <p>AND</p> <p>A09.2 <u>Noxious fish</u> are not to be held or produced in the <u>aquaculture</u> facility.</p> <p>AND</p> <p>A09.3 Exotic fish, and fish that are non-endemic to the location, are not to be held or produced in the <u>aquaculture</u> facility.</p> <p>OR</p> <p>A09.4 All hazards and risks associated with any proposed culture of <u>exotic fish</u> or <u>fish</u> that are non-endemic to the location are addressed.</p>
<p>PO10 The <u>aquaculture</u> facility is designed to maintain integrity of the <u>aquaculture</u> product.</p>	<p>A010.1 The <u>aquaculture</u> facility design will allow the integrity of the <u>aquaculture</u> product to be maintained and lawful methods of harvesting of the <u>aquaculture</u> product are proposed.</p> <p>AND</p> <p>A010.2 The <u>aquaculture</u> facility design will allow food safety and ethical standards to be met.</p>
<p>PO11 The <u>aquaculture</u> facility is designed and constructed to mitigate risks of impact on the natural environment.</p>	<p>A011.1 The design and construction of the <u>aquaculture</u> facility minimises the risk of impact on <u>waterways</u> by:</p> <ol style="list-style-type: none"> (1) being located away from important natural features such as <u>waterways</u> and wetlands (2) constructing every <u>pond</u> above the <u>highest astronomical tide</u> (3) not allowing <u>discharge</u> from <u>ponds</u> and <u>tanks</u> to enter <u>waterways</u> (4) including all reasonable and practicable measures to ensure that all waters are secured in such a way as to prevent the escape of any

Performance outcomes	Acceptable outcomes
	<p><u>aquaculture fisheries resources</u> into Queensland waters.</p> <p>AND</p> <p>AO11.2 The design of the <u>aquaculture</u> facility allows control over the release of water from all <u>ponds</u>, <u>tanks</u> and drainage systems within the approved <u>aquaculture</u> area.</p> <p>OR</p> <p>AO11.3 The design of the <u>aquaculture</u> facility ensures there is no release or <u>discharge to waterways</u> by:</p> <p>(1) not allowing release of <u>discharge</u> from <u>ponds</u> and <u>tanks</u> to enter <u>waterways</u>, or</p> <p>(2) not allowing exotic fish in open or flow-through systems that allow release or <u>discharge</u> into <u>waterways</u>.</p>
<p>PO12 The <u>aquaculture</u> facility is designed to allow for management of <u>disease</u>.</p> <p>Note: Further information can be found in the <i>Health management technical guidelines for aquaculture: Technical guidelines for health management for aquaculture, including aquaculture undertaken under the self-assessable code</i>, Department of Agriculture, Fisheries and Forestry, 2008.</p>	<p>AO12.4 The <u>aquaculture</u> facility is designed such that any <u>fish</u> mortalities and processing wastes (including filter residues) are treated and disposed of in accordance with the Australian Government Department of Agriculture, Fisheries and Forestry <i>AQUAVETPLAN</i> (as updated from time to time) available on the Australian Government Department of Agriculture, Fisheries and Forestry website.</p>
Land-based aquaculture	
<p>PO13 <u>Ponds</u> are designed, constructed, managed and maintained to avoid leakage, ensure immunity from flooding, and minimise biosecurity and <u>disease</u> risks.</p> <p>Editor's note: Risk assessment considerations can be found in the <i>Guidelines for constructing and maintaining aquaculture containment structures: Guidelines for best practice in-ground pond construction for aquaculture</i>, Department of Agriculture, Fisheries and Forestry, 2007.</p>	<p>AO13.1 Appropriate risk assessment has been undertaken with regards to site and design options, and the outcomes of the risk assessment are applied to the development proposed.</p> <p>AND</p> <p>AO13.2 The development is not located on flood prone <u>land</u>.</p> <p>AND</p> <p>AO13.3 <u>Ponds</u> are constructed above the <u>highest astronomical tide</u>.</p> <p>AND</p> <p>AO13.4 <u>Containers</u> used to cultivate <u>aquaculture fisheries resources</u> are constructed with the lowest point of the top of wall at least the height of the Q100 flood level, or no lower than the highest known or recorded flood level if Q100 is unavailable.</p> <p>AND</p> <p>AO13.5 <u>Containers</u> used for treatment and settlement are constructed so that the lowest point on the top of wall is at least the height of the Q50 flood level.</p> <p>AND</p> <p>AO13.6 An appropriate size and number of overflow outlets are constructed 0.5 metres from the lowest point on the top of wall.</p> <p>AND</p> <p>AO13.7 All in-ground structures, including any structure or impoundment used for the collection or treatment of wastewater, are constructed so as to adequately prevent the ingress of stormwater run-off, for example, by constructing a bund or levee wall around the structure or impoundment.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO13.8 Control over the release of water from all <u>ponds</u>, <u>tanks</u> and drainage systems within the premises is able to be maintained at all times.</p> <p>AND</p> <p>AO13.9 All reasonable and practicable measures to ensure that all waters (for example, <u>ponds</u>, <u>tanks</u>, <u>aquaria</u>) on the premises are screened to prevent the escape of any <u>aquaculture fisheries resources</u> (eggs, juveniles or adults) into Queensland waters.</p> <p>AND</p> <p>AO13.10 Where water is to be introduced for <u>aquaculture</u>, the water is screened to prevent the movement of any juvenile or adult wild fauna (excepting zooplankton) into the premises.</p> <p>Editor's note: <i>Management arrangements for potentially high-risk activities in the context of ecologically sustainable development (ESD) for aquaculture facilities FAMOP001</i>, Department of Primary Industries and Fisheries, 2004 provides guidance on how to meet the acceptable outcomes.</p>
PO14 Land based <u>aquaculture</u> facilities that hold <u>fish</u> capable of overland escape are designed to prevent overland escape.	AO14.1 The <u>aquaculture</u> area is secured to prevent the overland escape of <u>aquaculture</u> product by maintaining a perimeter barrier that is impervious to all size classes of the <u>aquaculture fisheries resources</u> .
PO15 Land-based <u>bioremediation</u> practices for the purpose of <u>aquaculture</u> are designed, constructed, managed and maintained to minimise impacts on fisheries resources.	AO15.1 Where <u>fish</u> are used for <u>bioremediation</u> purposes, only approved <u>fish</u> species are to be used.
Tidal aquaculture	
PO16 <u>Aquaculture furniture</u> or other structures associated with any <u>aquaculture</u> on tidal land are designed and maintained to avoid or minimise impacts on native fauna.	AO16.1 Development prevents stranding or entanglement of native fauna, including, but not limited to: <ul style="list-style-type: none"> (1) <u>fisheries resources</u> (2) marine mammals (3) reptiles.
Aquaculture of barramundi for inland catchments	
PO17 The development does not compromise the ecological integrity of fauna in inland catchments (west of the Great Dividing Range). Editor's note: Aquacultured barramundi west of the Great Dividing Range (in inland catchments shared with other states) are not to be used for non-food purposes, including stocking Queensland waters or dams. Further information is available in <i>Health protocol for the importation and movement of live barramundi (FAMPR002)</i> , Department of Agriculture, Fisheries and Forestry, 2011	PO17.1 The development is designed to prevent the spread of <u>disease</u> or the introduction of barramundi into catchments where it does not naturally occur, through: <ul style="list-style-type: none"> (1) ensuring that <u>containers</u> used for the <u>aquaculture</u> of barramundi are constructed on <u>land</u> that is situated above the Q100 flood level (2) ensuring <u>container</u> design includes filters so that all waters leaving <u>containers</u> used for <u>aquaculture</u> of barramundi are screened to prevent the escape of eggs, juveniles or adults.
Exotic fish	
PO18 No water or organisms originating from the <u>aquaculture</u> of <u>exotic fish</u> reaches Queensland waters.	AO18.1 Culture of <u>exotic fish</u> does not occur in open or flow-through systems that <u>discharge</u> into <u>waterways</u> . AND AO18.2 All <u>containers</u> used to <u>aquaculture</u> <u>exotic fish</u> are screened to exclude vertebrate predators (for example birds) without causing injury to

Performance outcomes	Acceptable outcomes
	<p>such predators.</p> <p>AND</p> <p>A018.3 <u>Containers</u> used for the <u>aquaculture</u> of <u>exotic fish</u> are constructed on <u>land</u> that is situated above the Q100 flood level.</p> <p>AND</p> <p>A018.4 Filters with screens are installed so that any water leaving <u>containers</u> used for the <u>aquaculture</u> of <u>exotic fish</u> are treated to prevent the escape of eggs, juveniles or adults.</p>
PO19 Commonwealth quarantine protocols have successfully been completed for any <u>fish</u> proposed for production.	No acceptable outcome is prescribed.
Aquaculture of rare, threatened and endangered species recognised in international, Commonwealth and state legislation	
<p>PO20 <u>Aquaculture</u> of any rare, threatened or endangered <u>fish</u> that are recognised under state or commonwealth legislation (for example the <i>Environment Protection and Biodiversity Conservation Act 1999</i> list of threatened fauna (under any category) or the <i>Queensland Nature Conservation Act 1992</i>):</p> <ol style="list-style-type: none"> (1) provides a net benefit to management of the species in question (2) avoids or acceptably minimises <u>biosecurity</u> risks (3) acceptably manages any risks to the rare, threatened or endangered <u>fish</u>. <p>Editor's note: For example, considering the risks of obtaining broodstock, maintaining the genetic integrity of restricted populations, <u>translocation</u> and <u>disease</u>.</p> <p>Editor's note: Examples of such species include Queensland lungfish, Mary and Murray River cods, silver perch, honey blue-eye and Oxleyan pygmy perch.</p>	No acceptable outcome is prescribed.
For aquaculture in the Great Sandy Strait Marine Park	
<p>PO21 Development in the Great Sandy Strait Marine Park complies with relevant information, protocols and monitoring programs.</p> <p>Editor's note: Further information for applicants can be found in the <i>Implementation guide for Great Sandy Regional Marine Aquaculture Plan</i>, Department of Employment, Economic Development and Innovation (Fisheries Queensland), 2011</p>	No acceptable outcome is prescribed.
Oysters	
PO22 <u>Aquaculture</u> infrastructure for oysters is designed, constructed, managed and maintained to avoid impacts to <u>fisheries resources</u> .	<p>A022.1 <u>Aquaculture furniture</u> used in oyster areas does not interfere with natural ecosystems, such as seagrass communities.</p> <p>AND</p> <p>A022.2 <u>Oyster furniture</u> is temporary and does not include fixed structures</p>

Performance outcomes	Acceptable outcomes
	<p>on the substrate (except for the supporting posts).</p> <p>AND</p> <p>A022.3 All materials used in the construction of <u>oyster furniture</u> or placed within the premises, are of an inert and non-hazardous nature.</p> <p>AND</p> <p>A022.4 Other structures, including break walls, fences, boat ramps and jetties, are not constructed on oyster areas.</p> <p>AND</p> <p>A022.5 Development that involves oyster farming within Moreton Bay Marine Park is consistent with the <i>Oyster Industry Management Plan for Moreton Bay Marine Park</i>, Department of Primary Industries and Fisheries, 2008.</p> <p>Editor's note: Further information can be found in <i>Oyster Industry Management Plan for Moreton Bay Marine Park</i>, Department of Primary Industries and Fisheries, 2008.</p>
<p>PO23 Facilities for the <u>aquaculture</u> of pearl oysters are designed, constructed, maintained and managed to meet pearl oyster quarantine management requirements for Queensland.</p> <p>Editor's note: Further pearl oyster quarantine information can be found on the Department of Agriculture, Fisheries and Forestry website (www.daff.qld.gov.au)</p>	<p>A023.1 No acceptable outcome is prescribed.</p>

3.2 Reference documents

Aquaculture policies and guidelines

Department of Agriculture, Fisheries and Forestry December 2004 [FAMOP001 – Management arrangements for potentially high-risk activities in the context of ecologically sustainable development \(ESD\) for aquaculture facilities](#)

Editor's note: This includes the following:

- (1) flood prone land,
- (2) exotic freshwater fish species
- (3) barramundi in inland catchments
- (4) use of aquacultured product for bait.

Department of Agriculture, Fisheries and Forestry December 2003 [FAMOP005 – Policy relating to the relaying of oysters within Queensland waters](#)

Department of Agriculture, Fisheries and Forestry December 2003 [FAMOP006 – Policy relating to the transshipment of oysters into Queensland waters](#)

Department of Agriculture, Fisheries and Forestry June 2011 [FAMOP015 – Management arrangements for translocation of live aquatic organisms \(transport between bioregions\) for aquaculture](#)

Department of Primary Industries and Fisheries May 2008 [Policy for maximising rock oyster production: management of non-productive oyster areas](#)

Department of Primary Industries and Fisheries August 2008 [*Oyster Industry Management Plan for Moreton Bay Marine Park*](#)

Department of Primary Industries and Fisheries 2007 [*Guidelines for constructing and maintaining aquaculture containment structures*](#)

Department of Primary Industries and Fisheries September 2005 [*Site identification for aquaculture: Assessment of chemical contamination in site selection*](#)

Department of Primary Industries and Fisheries February 2008 [*Health management technical guidelines for aquaculture*](#)

Department of Employment, Economic Development and Innovation (Fisheries Queensland) 2010 [*Great Sandy Regional Marine Aquaculture Plan \(GSRMAP\)*](#)

[*Conservation Agreement*](#) between Minister for Sustainability, Environment, Water, Population and Communities on behalf of the Commonwealth of Australia and The Minister for Agriculture, Food and Regional Economies and The Minister for Environment on behalf of the State of Queensland dated 7 September 2011 - Agreement in relation to aquaculture operations in the Great Sandy Marine Park as described in the Great Sandy regional marine aquaculture plan (Queensland Government, approved October 2010) and made under the Environment Protection and Biodiversity Conservation Act 1999 (Cth)

Department of Employment, Economic Development and Innovation 2011 [*Implementation guide for the Great Sandy Regional Marine Aquaculture Plan authorities*](#)

Translocation and biosecurity

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR001 - Health protocol for the importation of selected live penaeid species from outside Queensland's East Coast waters*](#) (i.e. Gulf of Carpentaria, Torres Strait, Northern Territory and Western Australia)

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR002 - Health protocol for the importation and movement of live barramundi*](#)

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR003 - Health protocol for the translocation and movement of live bivalve molluscs*](#)

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR004 - Health protocol for the movement of live marine crustaceans including crabs, lobsters and bugs*](#)

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR005 - Health protocol for the movement of live eels*](#)

Department of Agriculture, Fisheries and Forestry June 2011 [*FAMPR006 - Health protocol for the movement of live freshwater crayfish and prawns*](#)

Department of Employment, Economic Development and Innovation June 2011 [*FAMPR007 - Health protocol for the movement of live freshwater native finfish \(other than barramundi and eels\)*](#)

Department of Agriculture, Fisheries and Forestry 2013 [*Identifying and reporting disease in aquaculture*](#)

Editor's note: This website contains information on [aquaculture](#) health, pests and [diseases](#)

Department of Agriculture, Fisheries and Forestry 2011 [*Protecting our aquaculture:*](#)

Editor's note: This website contains information on the different measures in place to protect Queensland [aquaculture](#) from [disease](#) outbreaks

Department of Agriculture, Fisheries and Forestry 2011 [*Controls over chemical use*](#)

Editor's note: This website contains information regarding controls over use of agricultural and veterinary chemicals in the [aquaculture](#) industry

Department of Agriculture, Fisheries and Forestry 2013 [*Pearl oyster quarantine*](#)

Editor's note: This website contains information on pearl oyster quarantine in preventing [disease](#) introduction to a farm and its spread within the farm

Guidelines

Department of Primary Industries and Fisheries 2004 [*Fish salvage guidelines*](#)

Policies

Department of Agriculture, Fisheries and Forestry [*FHMOP 005.2 - Marine fish habitat offset policy*](#)

Self assessable codes

Department of Agriculture, Fisheries and Forestry 2013 [*AQUA01-Code for self-assessable development - Low impact aquaculture*](#)

Other references

Australian Government Department of Agriculture, Fisheries and Forestry [*AQUAVETPLAN*](#)

Editor's note: This website contains information on the Australian Aquatic Veterinary Emergency Plan.

Australian Government - Ministerial Council on Forestry, Fisheries and Aquaculture 1999 [*National policy for the translocation of live aquatic organisms – Issues, principles and guidelines for implementation*](#)

Department of Natural Resources and Mines 2002 [*Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines*](#)

International Erosion Control Association 2008 [*Best Practice Erosion and Sediment Control Guidelines*](#)

Queensland Government 2008 [*Queensland Government Environmental Offsets Policy*](#)

Editor's note: This document is available from the Department of Environment and Heritage Protection [library catalogue](#)

3.3 Glossary of terms

Aquaculture see *Fisheries Act 1994*, schedule.

Editor's note: Aquaculture means the cultivation of live fisheries resources for sale other than in circumstances prescribed under a regulation.

Aquaculture fisheries resources see *Fisheries Act 1994*, schedule.

Editor's note: Aquaculture fisheries resources means live fish and other marine plants cultivated in aquaculture.

Aquaculture furniture see *Fisheries Act 1994*, schedule.

Editor's note: Aquaculture furniture means a cage, rack, tank, tray or anything else used, or capable of being used, in aquaculture or to assist in aquaculture.

AQUAVETPLAN means the Australian Aquatic Veterinary Emergency Plan.

Editor's note: AQUAVETPLAN is a series of manuals that outline Australia's approach to national disease preparedness and propose the technical response and control strategies to be activated in a national aquatic animal disease emergency. The manuals also provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency management plans.

Bioremediation means the branch of biotechnology that uses biological processes to overcome environmental problems.

Editor's note: For example, the culture of fisheries resources for the purpose of improving the quality of discharge water from treatment and settlement ponds.

Biosecurity means protection from the risks posed by organisms to the economy, environment and people's health.

Container see *Fisheries Act 1994*, schedule.

Editor's note: Container includes a basket, case and tray.

Discharge means the release of wastewater into natural waterways.

Disease see *Fisheries Act 1994*, section 94.

Editor's note: Disease means –

- (1) a disease, parasite, pest, plant or other thing (the disease) that has, or may have, the effect (directly or indirectly) of killing or causing illness in fisheries resources, or in humans or animals that eat fisheries resources infected with or containing the disease; or
- (2) a chemical or antibiotic residue; or
- (2) a species of a fish or plant that may compete against fisheries resources or other fisheries resources to the detriment of the fisheries resources or other fisheries resources.

Exotic fish means fish originating from anywhere outside Queensland.

Fish see *Fisheries Act 1994*, section 5.

Editor's note: Fish –

- (1) means an animal (whether living or dead) of a species that throughout its life cycle usually lives:
 - (a) in water (whether freshwater or saltwater)
 - (b) in or on foreshores or
 - (c) in or on land under water
- (2) includes:
 - (a) prawns, crayfish, rock lobsters, crabs and other crustaceans
 - (b) scallops, oysters, pearl oysters and other molluscs
 - (c) sponges, annelid worms, bêche-de-mer and other holothurians
 - (d) trochus and green snails
- (3) however, does not include:
 - (a) crocodiles
 - (b) protected animals under the *Nature Conservation Act 1992*
 - (c) pests under the *Pest Management Act 2001*; or

- (d) animals prescribed under a regulation not to be fish
- (4) also includes:
 - (a) the spat, spawn and eggs of fish
 - (b) any part of fish or of spat, spawn or eggs of fish
 - (c) treated fish, including treated spat, spawn and eggs of fish
 - (d) coral, coral limestone, shell grit or star sand
 - (e) freshwater or saltwater products declared under a regulation to be fish.

Fisheries resources see *Fisheries Act 1994*, schedule.

Editor's note: Fisheries resources includes fish and marine plants.

Fishery see *Fisheries Act 1994*, section 7.

Editor's note: Fishery means activities by way of fishing, including, for example, activities specified by reference to all or any of the following –

- (1) a species of fish
- (2) a type of fish by reference to sex, size or age or another characteristic
- (3) an area
- (4) a way of fishing
 - (a) a type of boat
 - (b) a class of person
 - (c) the purpose of an activity
 - (d) the effect of the activity on a fish habitat, whether or not the activity involves fishing
 - (e) anything else prescribed under a regulation

Fish habitat see *Fisheries Act 1994*, schedule.

Editor's note: Fish habitat includes land, waters and plants associated with the life cycle of fish, and includes land and waters not presently occupied by fisheries resources.

Fishing see *Fisheries Act 1994*, schedule.

Editor's note: Fishing includes –

- (1) searching for, or taking, fish; and
- (2) attempting to search for, or take, fish; and
- (3) engaging in other activities that can reasonably be expected to result in the locating, or taking, of fish; and
- (4) landing fish (from a boat or another way), bringing fish ashore or transshipping fish.

Highest astronomical tide means the highest level of the tides that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.

Land see *Fisheries Act 1994*, schedule.

Editor's note: land includes foreshores and tidal and non-tidal land.

Marine Park means a marine park under the *Marine Parks Act 2004*.

Editor's note: marine park means a marine park declared, or taken to be declared, under the *Marine Parks Act 2004*.

Noxious fisheries resource means fisheries resources prescribed under a regulation or management plan to be noxious fisheries resources.

Oyster furniture means any structure that is used for the purpose of collecting oyster spat or growing oysters.

Examples of oyster furniture include:

- (1) BST adjustable longline - Bags are suspended by either stainless steel wire coated in plastic or polypropylene wire covered in a sheath of poly pipe. The wire is stretched between anchor posts of hardwood, galvanised iron, aluminium, PVC or large diameter poly pipe.
- (2) Collecting slats - PVC water pipes or plastic slats are laid horizontally at regular intervals to form a grid. They are laid out on rails in rows and secured to the rack, or suspended from lines stretched between two anchoring points.
- (3) Nursery systems - Spat is contained in a series of small mesh baskets or cylinders fixed in position and subject to a continual upwelling of water.
- (4) Post and rail furniture - Used for stick cultivation, tray cultivation, floating cylinders and the rack and basket system. The furniture used for these cultivation methods involves two parallel rails, supported at regular intervals by posts driven into the substrate. These rails and posts

are commonly constructed using sawn hardwood treated with creosote, radiata pine timber treated with creosote or CCA, galvanised iron, aluminium, PVC or large diameter poly pipe. The sticks, trays, floating cylinders or baskets are laid across the rails and secured to the structure.

- (5) Rack and basket system - Bags of PVC mesh with two longitudinal sticks through either end are suspended between two parallel rails supported by posts at regular intervals.
- (6) Stick battery - Sticks of hardwood are laid out at regular intervals and nailed to cross beams to form frames that are stacked on top of each other. The batteries are laid out on rails in rows and secured to the rack, or suspended from lines stretched between two anchoring points.
- (7) Stick cultivation - The sticks used for spat collection are retained and the oysters are left to mature. The sticks are separated and laid out more extensively onto two parallel rails supported by posts at regular intervals.
- (8) Subtidal system - Oysters are suspended in the water and remain below the water at all times. Various types of furniture can be used to accommodate oysters in subtidal waters, including trays suspended on buoys or pyramid-like devices with horizontal trays.
- (9) Tray cultivation - Timber, aluminium or plastic frames with bases of galvanised wire or plastic mesh are used to construct trays. The top of the trays are usually covered with a wire mesh. The trays are suspended between two parallel rails supported by posts at regular intervals.

Pond means an earthen in-ground container.

Prescribed aquaculture means aquaculture for which a resource allocation has been obtained.

Resource allocation authority see the *Fisheries Act 1994*, schedule.

Editor's note: resource allocation authority means a resource allocation authority issued, and in force, under the *Fisheries Act 1994* part 5, division 3, subdivision 2A.

Tank means an above-ground container used for intensive aquaculture within an enclosed facility.

Tidal land see *Fisheries Act 1994*, schedule.

Editor's note: tidal land includes reefs, shoals and other land permanently or periodically submerged by waters subject to tidal influence.

Translocation means the movement of live aquatic organisms (including all stages of the organism's life cycle and any derived viable genetic material):

- (1) beyond its accepted distribution; or
- (2) to areas which contain genetically distinct populations; or
- (3) to areas with superior parasite or disease status.

Unallocated tidal land see the *Fisheries Act 1994*, schedule.

Editor's note: Unallocated tidal land means tidal land that is unallocated State land under the *Land Act 1994*, schedule 6.

Waterway see the *Fisheries Act 1994*, schedule.

Editor's note: Waterway includes a river, creek, stream, watercourse or inlet of the sea.

Abbreviations

CCA – chromated copper arsenate

PVC – polyvinyl chloride

RPEQ – Registered Professional Engineer Queensland

Module 4. Environmentally relevant activities

4.1 Concurrence environmentally relevant activities state code

4.1.1 Purpose

The purpose of this code is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development).

Note: In deciding whether all reasonable and practical measures have been taken to minimise adverse effects of the activity, the chief executive may consider the following matters:

- (1) the nature of the harm or potential harm
- (2) the sensitivity of the receiving environment
- (3) the current state of technical knowledge for the activity
- (4) the likelihood of successful application of the different measures that might be taken to minimise the adverse effects
- (5) the financial implications of the different measures as they would relate to the type of activity
- (6) if the adverse effect is caused by the location of the activity being carried out, whether it is feasible to carry out the activity at another location.

4.1.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 4.1.1

- (2) A material change of use for an environmentally relevant activity mentioned in column 1 of Table 4.1.1 must comply with the relevant provisions of Table 4.1.2, Table 4.1.3 and Table 4.1.4 mentioned in column 2 of Table 4.1.1.

Table 4.1.1: Environmentally relevant activity applicable criteria for activity

Environmentally relevant activity	Relevant provisions of code
All environmentally relevant activities (ERA)	Table 4.1.2 —PO1–PO5
ERA in a wild river area other than ERA 16 (extractive and screening activities) under the Environmental Protection Regulation 2008, schedule 2, section 16	Table 4.1.2 —PO1–PO5 Table 4.1.3 —PO1–PO3
ERA 63 (sewage treatment) under the Environmental Protection Regulation 2008, schedule 2, section 63 and ERA 64 (water treatment) under the Environmental Protection Regulation 2008, schedule 2, section 64 in a wild river high-preservation area	Table 4.1.2 —PO1–PO5 Table 4.1.3 —PO4
ERA 16 (other than riverine quarry extraction)	Table 4.1.2 —PO1–PO5

Environmentally relevant activity	Relevant provisions of code
under the Environmental Protection Regulation 2008, schedule 2, section 16 in a wild river area	Table 4.1.3 —PO5–PO6
ERA 16 (extractive and screening activities) under the Environmental Protection Regulation 2008, schedule 2, section 16 that is riverine quarry extraction in a wild river area.	Table 4.1.2 —PO1–PO5 Table 4.1.3 —PO7–PO10
Intensive animal industry	Table 4.1.2 —PO1–PO5 Table 4.1.4 —PO1–PO6

Table 4.1.2: All environmentally relevant activities

Performance outcomes	Acceptable outcomes
Site suitability	
PO1 The choice of the site at which the activity is to be carried out minimises serious environmental harm on areas of high conservation value and special significance, and sensitive land uses at adjacent places.	A01.1 Areas of high conservation value and special significance likely to be affected by the activity are identified and evaluated, and any adverse effects on these areas are minimised, including edge effects. AND A01.2 The activity does not have an adverse effect beyond the site. OR A01.3 Critical design requirements will prevent emissions having an irreversible or widespread impact on adjacent areas.
Location of activity on the site	
PO2 The location for the activity on the site protects all environmental values relevant to adjacent sensitive land uses.	A02.1 The location of the activity means there will be no adverse effect on any <u>environmental values</u> . OR A02.2 Both of the following apply: (1) The activity and components of the activity are located on the site in a way that prevents or minimises adverse effects on the use of adjacent land and allows for effective management of the environmental impacts of the activity. (2) Areas used for storing environmentally hazardous materials in bulk are located to take into consideration the likelihood of flooding.
Critical design requirements	
PO3 The design of the facility at which the activity is to be carried out permits the activity to be carried out in accordance with <u>best practice environmental management</u> .	A03.1 The activity does not involve the storage, production, treatment or release of <u>hazardous contaminants</u> , or involve a regulated structure. OR A03.2 Development ensures that— (1) All storage provided for <u>hazardous contaminants</u> includes secondary containment to prevent or minimise releases to the <u>environment</u> from spillage or leaks. (2) <u>Regulated structures</u> must comply with the <i>Manual for assessing hazard categories and hydraulic performance of dams</i> , Department of Environment and Heritage Protection, 2012. (3) Containers are provided for the storage of <u>hazardous contaminants</u> and are secured to prevent the removal of the containers from the site by a flood event. (4) The design of the facility—

Performance outcomes	Acceptable outcomes
	<p>(a) prevents or minimises the production of <u>hazardous contaminants</u> and <u>waste</u>, or</p> <p>(b) contains and treats <u>hazardous contaminants</u>, rather than releasing them.</p>
Standard criteria	
<p>PO4 The design of the activity demonstrates consideration of the <u>standard criteria</u>.</p> <p>Editor's note: It is recommended that the development application should address how it has considered the <u>standard criteria</u>.</p>	No acceptable outcome is prescribed.
<p>PO5 The activity avoids adverse impacts on <u>matters of state environmental significance</u> or, where this is not reasonably possible, impacts are minimised and residual impacts are offset.</p>	<p>AO5.1 <u>Matters of state environmental significance</u> likely to be affected by the activity are identified and evaluated, and any adverse effects on the <u>matters of state environmental significance</u> are avoided or, where this cannot be reasonably achieved, impacts are minimised and any residual impacts are offset.</p>

Table 4.1.3: Environmentally relevant activities in a wild river area

Performance outcomes	Acceptable outcomes
Concurrence ERAs (other than ERA 16 (extractive and screening activities))	
Riparian and wildlife corridor functions and water quality	
<p>PO1 Riparian areas and wildlife corridors along streams in a wild river <u>high-preservation area</u>, or along nominated waterways in the wild river area, are preserved, and pollutants from the activity have a low probability of affecting water quality in adjacent waterways.</p>	<p>AO1.1 The activity is set back from a nominated waterway in the wild river area in accordance with the minimum distance prescribed in Schedule 3 of the relevant Department of Environment and Heritage <i>wild river declaration</i>, available from the Department of Environment and Heritage library catalogue.</p> <p>OR</p> <p>AO1.2 If the activity is in a high-preservation area, the activity is set back from the outer bank of a stream in accordance with the minimum distance prescribed in Schedule 3 of the relevant Department of Environment and Heritage <i>wild river declaration</i>, available from the Department of Environment and Heritage library catalogue.</p>
<p>PO2 Contaminated wastewater and stormwater does not degrade the quality of any receiving waters (both watercourse and groundwater).</p> <p>Note: There will be no degradation of the quality of the receiving waters if water quality downstream of the activity is consistent with water quality upstream of the activity.</p>	<p>AO2.1 Contaminated wastewater or stormwater is treated to the quality of the receiving waters prior to discharge.</p> <p>OR</p> <p>AO2.2 Contaminated wastewater or stormwater is retained or stored on site.</p>
Concurrence ERAs (other than ERA 16 (extractive and screening activities))	
Geomorphic processes	
<p>PO3 The activity will not result in the increased delivery of sediment to adjacent waterways.</p>	<p>AO3.1 Activities are not located on slopes of a greater value than prescribed in Schedule 3 of the relevant Department of Environment and Heritage <i>wild river declaration</i>, available from the Department of Environment and Heritage library catalogue.</p>

Performance outcomes	Acceptable outcomes
Concurrence ERA 63 (sewage treatment) and ERA 64 (water treatment) in a wild river high-preservation area Riparian and wildlife corridor functions and water quality	
PO4 Water quality in watercourses and lakes is not adversely affected. Note: Water quality will not be adversely affected if water quality immediately downstream of the activity is consistent with water quality immediately upstream of the activity.	A04.1 Wastewater is treated to the quality of the receiving waters prior to discharge. OR A04.2 Water is reclaimed or re-used.
Concurrence ERA 16 (extractive and screening activities)—other than riverine quarry extraction Riparian and wildlife corridor functions and water quality	
PO5 Riparian areas and wildlife corridors along streams in a wild river <u>high-preservation area</u> , or along nominated waterways in the wild river area, are preserved.	A05.1 Provision must be made for fish passage during works during the carrying out of the activity. AND A05.2 Clearing of riparian vegetation is limited to the minimum area required for the activity to be carried out.
Concurrence ERA 16 (extractive and screening activities)—other than riverine quarry extraction Geomorphic processes	
PO6 Bed and bank stability is preserved.	A06.1 Excavation in the bed of a stream is limited to scour depth. AND A06.2 Excavation in the bed of a stream is less than one-third of the bed width. AND A06.3 Clearing of in-stream vegetation is limited to the minimum area required for the activity to be carried out. AND A06.4 The final stream profile does not direct flow into a bank.
Concurrence ERA 16 (extractive and screening activities)—riverine quarry material extraction Geomorphic and hydrological processes	
PO7 Extraction must occur from areas of active deposition including: (1) aggrading bars (2) sand slugs (3) benches and islands or (4) sediment pockets in bedrock channels.	No acceptable outcome is prescribed.
PO8 Bed and bank stability is preserved during the carrying out of the activity.	A08.1 Vehicle access tracks and crossings associated with the activity have scour protection on the bed immediately downstream of the crossing. AND A08.2 Access ramps and tracks are kept to a minimum and constructed to minimise erosion and turbulence problems at times of high flow. AND A08.3 Ramps cut into the bank for vehicle access are orientated downstream. AND

Performance outcomes	Acceptable outcomes
	<p>A08.4 Vehicle crossings are orientated perpendicular to the stream channel $\pm 10^\circ$.</p> <p>AND</p> <p>A08.5 Where vehicle crossings are required, these will be at stream-bed level; OR if it can be demonstrated that stream-bed level crossings are inappropriate, any culverts for vehicle crossing are aligned with the direction of natural stream flow, when that flow is of a depth equal to the culvert height.</p> <p>AND</p> <p>A08.6 The activity includes measures to prevent stormwater erosion in drains and cuttings on the bank.</p> <p>AND</p> <p>A08.7 Stream-bed controls are located upstream and downstream of the site.</p> <p>AND</p> <p>A08.8 Excavation in the stream-bed is less than one-third of the bed width.</p> <p>AND</p> <p>A08.9 Clearing of in-stream vegetation is limited to the minimum area required for the activity to occur.</p>
PO9 Bed and bank stability is preserved.	<p>A09.1 The stream is rehabilitated as near as possible to its natural state after the activity has been conducted.</p> <p>AND</p> <p>A09.2 Exposed bank areas are prepared to facilitate natural regeneration of native plant species.</p> <p>AND</p> <p>A09.3 Stream-bed and bank controls are retained upstream and downstream of the site of the activity.</p>
Concurrence ERA 16 (extractive and screening activities)—riverine quarry material extraction Riparian and wildlife corridor functions	
PO10 Riparian areas and wildlife corridors along watercourses are preserved.	<p>A010.1 Provision is made for fish passage during the carrying out of the activity.</p> <p>AND</p> <p>A010.2 The width of the vegetation clearing in the riparian zone is limited to that required for the activity plus 2 metres each side.</p> <p>AND</p> <p>A010.3 Areas of riparian zone cleared of vegetation and not required for the final stage of the activity will be prepared to facilitate natural regeneration of native plant species.</p>

Table 4.1.4: Intensive animal industries

Performance outcomes	Acceptable outcomes
Best practice environmental management	
<p>PO1 The activity is undertaken in accordance with <u>best practice environmental management</u>.</p> <p>Editor's note: Development should have regard to the following industry guidelines for the applicable ERA.</p> <p>(1) Cattle: <i>National guidelines for beef cattle feedlots in Australia, 3rd Edition</i>, Meat & Livestock Australia, 2012</p> <p>(2) Cattle and sheep: <i>National beef cattle feedlot environmental code of practice, 2nd Edition</i>, Meat & Livestock Australia, 1997</p> <p>(3) Pig keeping: <i>National environmental guidelines for piggeries, 2nd Edition (Revised)</i>, Tucker, RW, McGahan, EJ, Galloway, JL and O'Keefe for Australian Pork Limited, 2010</p> <p>(4) Poultry farming: <i>Queensland guidelines for meat chicken farms</i>, Department of Agriculture, Fisheries and Forestry, 2012</p>	No acceptable outcome is prescribed.
Surface water	
<p>PO2 The design and management of the activity, and the onsite utilisation of <u>waste</u> products generated by the activity, prevents or minimises adverse effects to the quality of surface waters external to the activity.</p> <p>Editor's note: Development should have regard to the following industry guideline for surface water for the applicable ERA.</p> <p>(1) Cattle: <i>National guidelines for beef cattle feedlots in Australia, 3rd Edition</i>, Meat & Livestock Australia, 2012</p> <p>(2) Cattle and sheep: <i>National beef cattle feedlot environmental code of practice, 2nd Edition</i>, Meat & Livestock Australia, 1997</p> <p>(3) Pig keeping: <i>National environmental guidelines for piggeries, 2nd Edition (Revised)</i>, Tucker, RW, McGahan, EJ, Galloway, JL and O'Keefe for Australian Pork Limited, 2010</p> <p>(4) Poultry farming: <i>Queensland guidelines for meat chicken farms</i>, Department of Agriculture, Fisheries and Forestry, 2012</p>	No acceptable outcome is prescribed.
<p>PO3 The structures containing and controlling run-off from the activity and <u>waste</u> re-use areas minimise adverse effects on surface waters external to the activity.</p> <p>Editor's note: To meet the requirements of this performance outcome, it is recommended that the applicant develop a management system for the activity, detailing:</p> <p>(1) environmental hazards</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<ul style="list-style-type: none"> (2) risk assessment processes (3) an auditable, risk-based management system for the operation of the activity (4) procedures for annual review (5) proposed maintenance operations (6) stock numbers (7) monitoring of pens, sheds, ponds, drainage and any obvious dust, noise and odour impacts.. <p>Note: Development should have regard to the following industry guideline for surface water for the applicable ERA.</p> <ul style="list-style-type: none"> (1) Cattle: <i>National guidelines for beef cattle feedlots in Australia, 3rd Edition</i>, Meat & Livestock Australia, 2012 (2) Cattle and sheep: <i>National beef cattle feedlot environmental code of practice, 2nd Edition</i>, Meat & Livestock Australia, 1997 (3) Pig keeping: <i>National environmental guidelines for piggeries, 2nd Edition (Revised)</i>, Tucker, RW, McGahan, EJ, Galloway, JL and O'Keefe for Australian Pork Limited, 2010 (4) Poultry farming: <i>Queensland guidelines for meat chicken farms</i>, Department of Agriculture, Fisheries and Forestry, 2012 	
Groundwater	
<p>PO4 The activity is designed and managed to prevent or minimise adverse effects on groundwater or any associated surface ecological systems.</p> <p>Editor's note: Development should have regard to the following industry guideline for groundwater for the applicable ERA.</p> <ul style="list-style-type: none"> (1) Cattle: <i>National guidelines for beef cattle feedlots in Australia, 3rd Edition</i>, Meat & Livestock Australia, 2012 (2) Cattle and sheep: <i>National beef cattle feedlot environmental code of practice, 2nd Edition</i>, Meat & Livestock Australia, 1997 (3) Pig keeping: <i>National environmental guidelines for piggeries, 2nd Edition (Revised)</i>, Tucker, RW, McGahan, EJ, Galloway, JL and O'Keefe for Australian Pork Limited, 2010 (4) Poultry farming: <i>Queensland guidelines for meat chicken farms</i>, Department of Agriculture, Fisheries and Forestry, 2012 	No acceptable outcome is prescribed.
Amenity	
<p>PO5 The activity is designed and managed to minimise adverse effects on the amenity of the surrounding community.</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
Native flora and fauna	
<p>PO6 The activity is designed and managed to minimise adverse effects on ecological communities.</p> <p>Note: Development should have regard to the following industry guideline for native flora and fauna for the applicable ERA.</p> <p>(1) Cattle: <i>National guidelines for beef cattle feedlots in Australia, 3rd Edition</i>, Meat & Livestock Australia, 2012</p> <p>(2) Cattle and sheep: <i>National beef cattle feedlot environmental code of practice, 2nd Edition</i>, Meat & Livestock Australia, 1997</p> <p>(3) Pig keeping: <i>National environmental guidelines for piggeries, 2nd Edition (Revised)</i>, Tucker, RW, McGahan, EJ, Galloway, JL and O’Keefe for Australian Pork Limited, 2010</p> <p>(4) Poultry farming: <i>Queensland guidelines for meat chicken farms</i>, Department of Agriculture, Fisheries and Forestry, 2012</p>	No acceptable outcome is prescribed.

4.2 Reference documents

Tucker, RW, McGahan, EJ, Galloway, JL and O’Keefe for Australian Pork 2010 [National environmental guidelines for piggeries, 2nd Edition \(Revised\)](#)

Meat & Livestock Australia et al 2012 [National guidelines for beef cattle feedlots in Australia, 3rd Edition](#)

Department of Agriculture, Fisheries and Forestry 2012 [Queensland guidelines: Meat chicken farms](#)

Department of Environment and Heritage Protection [Wild river declarations](#)

Editor’s note: The wild river declarations are available from the Department of Environment and Heritage Protection [library catalogue](#)

Department of Environment and Heritage Protection 2012 [Manual for assessing hazard categories and hydraulic performance of dams](#)

Department of Primary Industries 2000 [Reference manual for the establishment and operation of beef cattle feedlots in Queensland](#)

Note: Available for purchase from the Department of Agriculture, Fisheries and Forestry

Meat & Livestock Australia et al 1997 [National beef cattle feedlot environmental code of practice, 2nd Edition](#)

4.3 Glossary of terms

Area of high conservation value or special significance see the *Environmental Protection Act 1994*, section 17

Best practice environmental management, for an activity, see the *Environmental Protection Act 1994*, section 21.

Editor’s note: In deciding **best practice environmental management** of an activity is the management of the activity to achieve an ongoing minimisation of the activity’s environmental harm through cost-effective measures assessed against the measures currently used nationally and internationally for the activity.

In deciding the best practice environmental management of an activity, regard must be had to the following measures:

- (1) strategic planning by the person carrying out, or proposing to carry out, the activity
- (2) administrative systems put into effect by the person, including staff training and monitoring and review of the systems
- (3) public consultation carried out by the person
- (4) product and process design
- (5) waste prevention, treatment and disposal.

The above matters do not limit the measures to which regard may be had in deciding the best practice environmental management of an activity.

Environment includes:

- (1) ecosystems and their constituent parts, including people and communities
- (2) all natural and physical resources
- (3) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community
- (4) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (1) to (3).

Environmental value see the *Environmental Protection Act 1994*, section 9

Editor's note: Environmental value means—

- (1) a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety
- (2) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation.

Hazardous contaminant see the *Environmental Protection Act 1994*, schedule 4

Editor's note: Hazardous contaminant means a contaminant, other than an item of explosive ordnance that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of:

- (1) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (2) its physical, chemical or infectious characteristics.

Matters of state environmental significance means the following natural values and areas protected under state environmental legislation:

protected area estates (including all classes of protected area except nature refuges and coordinated conservation areas) under the *Nature Conservation Act 1992*

- (1) marine parks (including 'marine national park', 'marine conservation park', 'scientific research', 'preservation' and 'buffer' zones) under the *Marine Parks Act 2004*
- (2) fish habitat areas A and B under the *Fisheries Act 1994*
- (3) threatened species (including plants, animals and animal breeding places) under the *Nature Conservation Act 1992*
- (4) regulated vegetation under the *Vegetation Management Act 2009* including:
 - (i) regional ecosystems identified as 'endangered', 'of concern', 'connectivity areas', 'critically limited', 'threshold', 'wetland'
 - (ii) 'high value regrowth' areas containing 'endangered' or 'of concern' regional ecosystems
 - (iii) regional ecosystems identified as 'watercourse'
- (5) high preservation areas of wild river areas under the *Wild Rivers Act 2005*
- (6) high conservation value wetlands under the *Environment Protection Act 1994* including:
 - (i) wetlands assessed as containing 'high' or 'very high' values via a conservation assessment, or
 - (ii) where a conservation assessment has not yet been completed; wetlands that intersect with areas shown in the 'Directory of Important Wetlands' and high ecological value wetlands and waterways declared under the *Environmental Protection (Water) Policy 2009*
- (7) legally secured offset areas.

Regulated structure means a structure that is assessed as being a regulated structure under the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* February 2012 published by the Department of Environment and Heritage Protection.

Release of a contaminant into the environment see the *Environmental Protection Act 1994*, schedule 4

Release of a contaminant into the environment includes:

- (1) to deposit, discharge, emit or disturb the contaminant
- (2) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed
- (3) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed
- (4) to allow the contaminant to escape
- (5) to fail to prevent the contaminant from escaping.

Serious environmental harm see the *Environmental Protection Act 1994*, section 17

Editor's note: Serious environmental harm is environmental harm (other than environmental nuisance):

- (1) that is irreversible, of a high impact or widespread
- (2) caused to an area of high conservation value or special significance
- (3) that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount or
- (4) that results in costs of more than the threshold amount being incurred in taking appropriate action to:
 - (a) prevent or minimise the harm
 - (b) rehabilitate or restore the environment to its condition before the harm.

Standard criteria see the *Environmental Protection Act 1994*, schedule 4

Editor's note: Standard criteria means the following principles of environmental policy as set out in the *Intergovernmental Agreement on the Environment*—

- (1) the precautionary principle
- (2) intergenerational equity
- (3) conservation of biological diversity and ecological integrity
- (4) any Commonwealth or Queensland Government plans, standards, agreements or requirements about environmental protection or ecologically sustainable development
- (5) any relevant wild river declaration
- (6) any relevant environmental impact study, assessment or report
- (7) the character, resilience and values of the receiving environment
- (8) all submissions made by the applicant and submitters
- (9) the best practice environmental management for activities under any relevant instrument, or proposed instrument, as follows:
 - (a) an environmental authority
 - (b) a transitional environmental program
 - (c) an environmental protection order
 - (d) a disposal permit
 - (e) a development approval
- (10) the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (7) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument
- (11) the public interest
- (12) any relevant site management plan
- (13) any relevant integrated environmental management system or proposed integrated environmental management system.

Waste see the *Environmental Protection Act 1994*, section 13

Editor's note: Waste includes anything, other than a resource approved under the *Waste Reduction and Recycling Act 2011*, Chapter 8, that is:

- (1) left over, or an unwanted by-product, from an industrial, commercial, domestic or other activity; or
- (2) surplus to the industrial, commercial, domestic or other activity generating the waste.

Abbreviations

ERA – Environmentally relevant activity

Module 5. Fisheries resources

5.1 Development in or adjacent to a declared fish habitat area state code

5.1.1 Purpose

Declared fish habitat areas protect, manage and link fish habitat types within an individual location, and create a comprehensive, adequate and representative network of protected fish habitats along the Queensland coast.

The purpose of this code is to ensure development in and adjacent to declared fish habitat areas is managed to support the fish stocks on which Queensland's fishing and seafood industry sectors rely. The code is designed to ensure that development:

- (1) is managed to support fish stocks
- (2) maintains the integrity, structure and fish habitat values of all fish habitat areas, and ensuring these areas are given significant protection from physical disturbance.

5.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 5.1.1

Table 5.1.1: All development

Performance outcomes	Acceptable outcomes
<p>PO1 There is a demonstrated right to propose development in or adjoining the declared <u>fish habitat</u> area.</p> <p>Editor's note: Further guidance on rights in the context of fisheries resources and fish habitats is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i> Department of Primary Industries and Fisheries, 2008.</p>	<p>AO1.1 Development is for public infrastructure that has no alternative viable route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>OR</p> <p>AO1.2 Works are for a legitimate public health or safety issue and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p> <p>OR</p> <p>AO1.3 The following can be demonstrated:</p> <ol style="list-style-type: none"> (1) tenure is held for the <u>land</u> directly abutting the declared <u>fish habitat</u> area (2) tenure has been granted over the area of work or a resource entitlement or resource allocation has been granted for the resource being developed.
<p>PO2 Development adjoining a declared <u>fish habitat</u> area has regard to the habitat values of each declared <u>fish habitat</u> area.</p>	<p>AO2.1 Adjoining development is located, designed and constructed to minimise impacts on the habitat values of the declared <u>fish habitat</u> area.</p> <p>Editor's note: The listed habitat values for each declared <u>fish habitat</u> area can be found in the relevant <i>Fish habitat area summary</i> available from the Department of National Parks, Recreation, Sport and Racing website.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO2.2 Adjoining development is located, designed, constructed and timed to minimise impacts on community use of the declared <u>fish habitat</u> area and adjoining <u>fish habitats</u>, particularly for <u>fishing</u>.</p> <p>AND</p> <p>AO2.3 A buffer between the adjoining development and the declared <u>fish habitat</u> area is provided and has a minimum width of 100 metres from the boundary of the declared <u>fish habitat</u> area.</p> <p>Editor's note: Guidelines to assist with determining the appropriate buffer widths:</p> <ol style="list-style-type: none"> (1) <i>Fisheries guidelines for fish habitat buffer zones (FHG 003)</i>, Queensland Fisheries Service, 2000 (2) <i>Queensland wetland buffer planning guideline</i>, Department of Environment and Resource Management, 2011. <p>OR</p> <p>AO2.4 Development is undertaken for one of the following purposes:</p> <ol style="list-style-type: none"> (1) restoring the <u>fish habitat</u> or natural processes (2) managing <u>fisheries resources</u> or <u>fish habitat</u> (3) researching, including monitoring or educating (4) ensuring public health or safety (5) providing public infrastructure to facilitate <u>fishing</u> (6) providing subterranean public infrastructure if the surface of the area can be restored, after the completion of the works or activity, to its condition before the performance of the works or activity (7) constructing a temporary structure (8) maintaining a structure that was constructed before the area was declared to be a <u>fish habitat</u> area (9) maintaining a structure, other than a structure mentioned in paragraph (8), that has been lawfully constructed (10) if the land is in a management B area — constructing a permanent structure on <u>tidal land</u> or within the management area, or depositing material for beach replenishment in the management area. <p>Editor's note: A <u>resource allocation authority</u> is required under the <i>Fisheries Act 1994</i> before development can proceed.</p>
<p>PO3 Development for a prescribed purpose in a declared <u>fish habitat</u> area, does not significantly impact on the natural condition of <u>fish habitat</u> and natural processes of the area.</p>	<p>AO3.1 Development is undertaken in accordance with <i>Management of declared fish habitat areas (FHMOP 002)</i>, Department of Primary Industries and Fisheries, 2008.</p>
<p>PO4 The development will not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity of <u>fisheries resources</u>.</p>	<p>AO4.1 Suitable habitat conditions, including but not limited to water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u>.</p> <p>AND</p> <p>AO4.2 Herbicides are not used on, and will not drift onto, <u>tidal land</u> or wetlands or into <u>waterways</u>.</p> <p>AND</p> <p>AO4.3 <u>Fish</u> will not become trapped or stranded as a result of development.</p> <p>OR</p> <p>AO4.4 Risks of <u>fish</u> stranding occurring have been identified and are</p>

Performance outcomes	Acceptable outcomes
	demonstrably manageable. Editor's note: Refer to relevant <i>Fish salvage guidelines</i> , Department of Primary Industries and Fisheries, 2004 for guidance on how to meet this acceptable outcome.
PO5 Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish habitats</u> , such as through <u>fishing</u> access and linkages between the commercial <u>fishery</u> and infrastructure, services and facilities.	A05.1 The development does not impact on existing infrastructure or existing community access arrangements for declared <u>fish habitat</u> areas.
PO6 Development that has the potential to impact the operations and productivity of Queensland commercial or recreational <u>fisheries</u> mitigates any adverse impacts due to adjustment of <u>fisheries</u> .	A06.1 Affected <u>fisheries</u> , and the impacts on those <u>fisheries</u> , are identified. AND A06.2 Fair and reasonable compensation to commercial fishers is determined. AND A06.3 The impact of the development on commercial <u>fisheries</u> and recreational fishers is offset.
Restoring the fish habitat or natural processes	
PO7 Development that is restoring the <u>fish habitat</u> or natural processes minimises impacts on the declared <u>fish habitat</u> area. Editor's note: Development to restore <u>fish habitat</u> areas includes: (1) reinstating tidal profiles for allowing restoration of <u>marine plant</u> communities (2) restoring tidal flows and inundation patterns. Editor's note: The vast majority of restoration works are likely to be authorised self-assessable works under the self-assessable code <i>MPO6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i> , Department of Employment, Economic Development and Innovation, 2011, with an endorsed restoration plan (no development application required).	A07.1 Restoration work will not result in the substitution of <u>fish habitats</u> . AND A07.2 Prior to restoration works, the area of disturbance does not show evidence of adequate natural recovery. AND A07.3 Restoration works are specifically for the benefit of <u>fish habitats</u> , <u>fisheries</u> productivity and natural ecological processes within the declared <u>fish habitat</u> area. AND A07.4 Restoration works have a disturbance area proposed for restoration in a degraded condition where restoration results in increased <u>fisheries</u> productivity. AND A07.5 Proposed restoration works are feasible, are likely to be successful, and the benefits of the restoration works outweigh the impacts of conducting the work. AND A07.6 Any restoration in a declared <u>fish habitat</u> area is undertaken in accordance with a post-works monitoring and maintenance program appropriate for the scale of the restoration works.
PO8 Excess sediment from restoration or <u>marine plants</u> that are required for a restoration project are obtained and managed to avoid further disturbance within the declared <u>fish habitat</u> area.	A08.1 Excess sediment from restoration is disposed of properly outside of the boundaries of a declared <u>fish habitat</u> area. AND A08.2 <u>Marine plants</u> for revegetation purposes are obtained from within a declared <u>fish habitat</u> area only if: (1) no alternative source of <u>marine plants</u> from outside the declared <u>fish habitat</u> area is feasible (2) the removal of <u>marine plants</u> is assessed to have minimal impact on the declared <u>fish habitat</u> area

Performance outcomes	Acceptable outcomes
	<p>(3) the <u>marine plants</u> are to satisfy local provenance.</p> <p>Editor's note: Vegetation to be used within a restoration project should comply with any relevant provisions of the <i>National policy for the translocation of live aquatic organisms</i>. See <i>Management and protection of marine plants and other tidal fish habitats (FHMOP 001)</i>, Department of Primary Industries and Fisheries, 2007 for specific guidance on <u>marine plant translocation</u>.</p>
<p>PO9 Benthic disturbance, as a result of development in a <u>fish habitat</u> area enables the area to be restored to the condition and profile that existed before the disturbance from development.</p> <p>Editor's note: Such disturbances include but are not limited to those associated with provision of subterranean infrastructure, or temporary structures.</p>	<p>AO9.1 Surface sediment type is restored to match the surrounding or pre-works sediment profile to aid recolonisation by flora and fauna.</p> <p>AND</p> <p>AO9.2 Any disturbance to <u>waterway</u> banks is suitably protected from erosion.</p> <p>AND</p> <p>AO9.3 The substrate surface total disturbance is minimised (for example, corridor width trench and any adjacent temporary spoil stockpile).</p>
<p>PO10 Development resulting in drainage or disturbance of acid sulfate soil prevents adverse impacts on <u>fisheries resources</u> and <u>fish habitats</u>.</p>	<p>AO10.1 Run-off and leachate from disturbed or oxidised acid sulfate soils is contained, treated and not released to a <u>waterway</u> or other <u>fish habitat</u>.</p> <p>AND</p> <p>AO10.2 Management of acid sulfate soil is consistent with the current version of the <i>Queensland acid sulfate soils technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p> <p>Editor's note: <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002 provides further guidance on the management of acid sulfate soils.</p>
Managing fisheries resources or fish habitats	
<p>PO11 Management of <u>fisheries resources</u> or <u>fish habitats</u> in a declared <u>fish habitat</u> minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO11.1 There is a demonstrated overriding need for development that involves managing <u>fisheries resources</u> or <u>fish habitat</u> within the declared <u>fish habitat</u> area.</p> <p>AND</p> <p>AO11.2 Management of <u>fisheries resources</u> or <u>fish habitat</u> in a declared <u>fish habitat</u> area is undertaken by the state or community groups for public benefit.</p>
Researching, including monitoring or educating	
<p>PO12 Development to support research, including monitoring or educating, within the declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO12.1 Development for education or research is directly related to education or research about one or more of the following, and is necessary to achieve the desired educational or research outcome:</p> <ol style="list-style-type: none"> (1) <u>fish</u> or <u>fisheries</u> (2) <u>fish habitat</u> (3) general biological/ecosystem values or processes within the area (4) survey works for existing property boundary definition and investigation of impacts of development on the declared <u>fish habitat</u> area <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>A012.2 For permanent educational structures (for example, educational signs or boardwalks) within a declared <u>fish habitat</u> area, the:</p> <ol style="list-style-type: none"> (1) the structure is publicly owned and for public benefit (2) educational benefits justify the impacts or (3) the structure is strategically located to achieve a high level of community use/benefit or awareness. <p>OR</p> <p>A012.3 Works for education or research:</p> <ol style="list-style-type: none"> (1) are limited in nature, frequency and extent (2) are temporary (3) allow for the <u>fish habitat</u> to quickly recover through natural processes without any requirement for restoration works (4) allow for the <u>fish habitat</u> to be restored, if relevant, at the completion of the project.
Ensuring public health or safety	
<p>PO13 Development that is ensuring public health or safety (other than works for mosquito control) within the declared <u>fish habitat</u> minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>A013.1 Works for a public health issue are:</p> <ol style="list-style-type: none"> (1) formally endorsed by Queensland Health or the relevant local government (2) necessary, as all alternative options that do not require works in a declared <u>fish habitat</u> area have been considered and are not viable or not achievable in the available timeframes for an urgent response to the public health issue. <p>AND</p> <p>A013.2 Works for a public safety purpose have no viable alternative options and are only for:</p> <ol style="list-style-type: none"> (1) signage or navigation aids to warn the public of a safety hazard (for example, within a <u>waterway</u> to warn of submerged rocks, crocodiles, marine stingers) (2) preventing an impending public safety issue (for example, beach cleaning to remove dangerous items such as syringes) (3) removal of a hazard to public safety that has resulted from a specific unforeseen event (for example, a fallen tree that is a danger to safe navigation, sediment deposited by a flood that is a danger to safe access to a public boat ramp; cleanup of an oil spill) (4) construction of a public marine stinger net to enable safe community use of the declared <u>fish habitat</u> area (5) placement of a cyclone mooring identified under a cyclone contingency plan by the harbour master or controlling port authority or corporation, and located in accordance with a cyclone mooring plan.
Public infrastructure to facilitate fishing	
<p>PO14 Development that is public infrastructure to facilitate <u>fishing</u> minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>A014.1 There is a demonstrated overriding need for public infrastructure to facilitate <u>fishing</u>, the development has a direct link to the activity of <u>fishing</u> and:</p> <ol style="list-style-type: none"> (1) is a public jetty, pontoon, boat ramp or <u>fishing</u> platform (2) the proposed location has been identified as the most suitable through a strategic planning document

Performance outcomes	Acceptable outcomes
	<p>(3) associated infrastructure that does not have a physical requirement to be within a declared <u>fish habitat</u> area is not located in the declared <u>fish habitat</u> area (for example, boat trailer parks, car parks, rest rooms).</p> <p>AND</p> <p>AO14.2 The structure does not require dredging within the declared <u>fish habitat</u> area for access.</p>
Providing subterranean public infrastructure	
<p>PO15 Development that is providing subterranean public infrastructure to transect the declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO15.1 Works for the construction of subterranean public infrastructure will:</p> <p>(1) be placed below the existing substrate surface level</p> <p>(2) have no viable alternative route that does not require works within a declared <u>fish habitat</u> area</p> <p>(3) allow satisfactory restoration of the substrate surface.</p>
Constructing a temporary structure	
<p>PO16 Development for a temporary structure minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO16.1 A temporary structure is located in part of the declared <u>fish habitat</u> area for which the applicant can demonstrate a level of ‘rights’ or interests.</p> <p>AND</p> <p>AO16.2 A temporary structure has a documented and measurably lesser impact on the declared <u>fish habitat</u> area than all other reasonable options.</p> <p>AND</p> <p>AO16.3 The temporary structure is for a public benefit project.</p> <p>AND</p> <p>AO16.4 A temporary structure is in place for no more than six weeks.</p> <p>OR</p> <p>AO16.5 Structures with a demonstrated negligible impact (for example, a temporary pipeline placed on the substrate surface of a declared <u>fish habitat</u> area where there is no damage through access or any outflow from the pipe into the area) may be left in place for up to six months.</p> <p>AND</p> <p>AO16.6 A temporary structure is appropriately designed such that all of its components are contained within the approved area and can be completely removed from the declared <u>fish habitat</u> area within six weeks of completion of works.</p> <p>AND</p> <p>AO16.7 To minimise impacts on the declared <u>fish habitat</u> area, a temporary structure is in place only at a time that avoids or minimises conflict with known <u>fish</u> migration periods (if relevant to the structure type and design proposed).</p> <p>AND</p> <p>AO16.8 A temporary <u>waterway</u> barrier that prevents tidal flow is not be left in place for longer than 30 business days.</p> <p>AND</p> <p>AO16.9 Once the structure is removed, the tidal profile is restored to allow natural recolonisation by <u>marine plants</u> and fauna.</p>

Performance outcomes	Acceptable outcomes
Maintenance of structures	
<p>PO17 Maintenance of a structure in or partially in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p> <p>Editor's note: The relevant structure being maintained may be a structure that was constructed before the area was declared to be a declared <u>fish habitat</u> area.</p>	<p>AO17.1 Maintenance works includes:</p> <ol style="list-style-type: none"> (1) the trimming of <u>marine plants</u>, immediately adjacent to the relevant structure, that impinge on the safe use of that structure, or (2) temporary disturbance of the declared <u>fish habitat</u> area for the purpose of accessing the structure (for example, an access track), provided the disturbance is necessary and minimised the disturbed area will be satisfactorily restored within 14 days of conclusion of maintenance works, or (3) relocation or exchange of the structure, if there is a clear net benefit to the declared <u>fish habitat</u> area.
Certain permanent structures within the declared fish habitat area management B area only	
<p>PO18 Development that is constructing a permanent structure within a declared <u>fish habitat</u> area (management B area) only minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO18.1 A permanent structure:</p> <ol style="list-style-type: none"> (1) is proposed in a part of the declared <u>fish habitat</u> area where the applicant can demonstrate a legal right or interest over that part of the declared <u>fish habitat</u> area that is greater than the legal right or interest of another member of the community (2) has the minimum size necessary to serve the overriding functional requirement that has been demonstrated (3) has a measurably lower level of predicted impact on the declared <u>fish habitat</u> area than all other reasonable options.
<p>PO19 Development that is depositing material for beach replenishment in a declared <u>fish habitat</u> area (management B area only) minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO19.1 Beach replenishment in a declared <u>fish habitat</u> area:</p> <ol style="list-style-type: none"> (1) is carried out in the management B area and the applicant can demonstrate a level of rights for the area (2) is for the control of existing or imminent erosion (3) is carried out on a high-energy, sandy sediment shoreline with biological communities adapted to mobile sediments (4) does not create terrestrial <u>land</u> for the placement of structures (for example, park infrastructure), unless for a sacrificial dune or beach where this forms an integral part of erosion control design and will minimise the frequency and impact of ongoing erosion control activities on the declared <u>fish habitat</u> area and all other reasonable options would have a greater impact on the management B area. <p>AND</p> <p>AO19.2 The beach replenishment:</p> <ol style="list-style-type: none"> (1) sources suitable replenishment material from a distance of greater than 100 metres* outside a declared <u>fish habitat</u> area or from works within a declared <u>fish habitat</u> area that have been authorised for another purpose (2) identifies a source of replenishment material for future maintenance (3) does not involve dredging or use of other techniques such as 'beach scraping or sand pushing' to obtain replenishment material within a declared <u>fish habitat</u> area (4) will not require maintenance more often than every two years. <p>* Excluding where sediment is sourced from a navigation channel.</p>

Performance outcomes	Acceptable outcomes
Boardwalks	
<p>PO20 Development that is for a boardwalk in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>PO20.1 The benefits of the boardwalk will outweigh any adverse impacts to the declared <u>fish habitat</u> area.</p> <p>AND</p> <p>PO20.2 The boardwalk will be:</p> <ol style="list-style-type: none"> (1) publicly owned and for public benefit (2) strategically located to achieve a high level of community use or benefit or awareness of the <u>fish habitat</u> area (3) for education or for providing public access to prevent uncontrolled disturbance of the declared <u>fish habitat</u> area. <p>AND</p> <p>AO20.3 The boardwalk will:</p> <ol style="list-style-type: none"> (1) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration to the substrate (2) maintain existing tidal hydrology. <p>Editor's note: Guidance on how to meet the acceptable outcomes is included in <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006.</p>
Bridges	
<p>PO21 For a development for a bridge in a declared <u>fish habitat</u> area (management B area only):</p> <ol style="list-style-type: none"> (1) the development minimises impacts on the declared <u>fish habitat</u> area (2) there is an overriding need for the bridge to be located in the management B area. 	<p>AO21.1 Bridges in a declared <u>fish habitat</u> area are located in the management B area of the declared <u>fish habitat</u> area.</p> <p>AND</p> <p>AO21.2 The bridge is located on or between lands for which the applicant can demonstrate rights.</p> <p>AND</p> <p>AO21.3 The bridge:</p> <ol style="list-style-type: none"> (1) abutments are outside the management B area (2) is supported on piles only (not culverts, pipes or causeways) and the number of bridge piles within the management B area is minimised (3) is designed to direct all water run-off from the surface of the bridge for treatment outside the declared <u>fish habitat</u> area (4) has minimal impacts on vessel access upstream from the declared <u>fish habitat</u> area.
Dredging or extracting sediment (for restoring fish habitats or natural processes)	
<p>PO22 Dredging or extracting in a declared <u>fish habitat</u> area restores <u>fish habitats</u> or natural processes.</p> <p>Editor's note: Applicants should review <i>MPo6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>—a self-assessable code may be applicable and not require a development application. See also prescribed development purpose—Restoring the <u>fish habitat</u> or natural processes.</p>	<p>AO22.1 Dredging or extracting sediment from a declared <u>fish habitat</u> area is only for the purpose of restoring <u>fish habitats</u> or natural processes.</p>

Performance outcomes	Acceptable outcomes
Fishing platforms	
<p>PO23 Development that is for a public <u>fishing</u> platform in a declared <u>fish habitat</u> area minimise impacts on the declared <u>fish habitat</u> area.</p>	<p>AO23.1 The proposed location for a public <u>fishing</u> platform in a declared <u>fish habitat</u> area:</p> <ol style="list-style-type: none"> (1) has been assessed to the most the most suitable location through a strategic planning approach (2) reflects an existing community requirement for the structure, which has been demonstrated and documented (3) is supported by an incorporated recreational <u>fishing</u> group for the area. <p>AND</p> <p>AO23.2 Public <u>fishing</u> platforms in a declared <u>fish habitat</u> area:</p> <ol style="list-style-type: none"> (1) do not require dredging (2) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.
<p>PO24 Development that is for a private <u>fish</u> platform in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO24.1 Private <u>fishing</u> platforms in a declared <u>fish habitat</u> area are located within management B areas of the declared <u>fish habitat</u> areas only.</p> <p>AND</p> <p>AO24.2 Private <u>fishing</u> platforms:</p> <ol style="list-style-type: none"> (1) originate from a lot adjoining the declared <u>fish habitat</u> area for which the applicant can demonstrate rights (2) do not extend from a lot that already has a jetty, pontoon or boat ramp. <p>AND</p> <p>AO24.3 Private <u>fishing</u> platforms:</p> <ol style="list-style-type: none"> (1) do not require dredging (2) do not adversely affect navigation for community access to the declared <u>fish habitat</u> area (3) have a total permanent footprint of less than 40 square metres (4) do not extend through a <u>marine plant</u> fringe of more than 15 metres in width (measured perpendicular to the shore) (5) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.
Industrial water inlets/outlets	
<p>PO25 Industrial water inlet or outlet structures are compatible with the management B area, and minimise impacts on management B areas.</p>	<p>AO25.1 Industrial water inlet or outlet structures may be located in a management B area if:</p> <ol style="list-style-type: none"> (1) the structures, including intake or discharge pipes and necessary associated pipes and transfer pipes, originate from adjoining land for which the applicant can demonstrate rights (2) <u>fish</u> health and productivity and the potential use of exposed <u>fish</u> for food or <u>aquaculture</u> purposes are not reasonably expected to be compromised by the proposed use of the structure (3) alternatives for reuse and or disposal outside the declared <u>fish habitat</u> area are impractical. <p>AND</p> <p>AO25.2 Industrial water inlet or outlet structures:</p> <ol style="list-style-type: none"> (1) use only buried pipelines, surface laid pipeline systems or elephant trunk systems

Performance outcomes	Acceptable outcomes
	<ul style="list-style-type: none"> (2) do not require intake channels or dredging unless the excavation is necessary to install a buried pipeline and the substratum surface of the declared <u>fish habitat</u> area is satisfactorily restored (3) have an intake or outlet volume of water that has minimal impact on natural hydrology within the declared <u>fish habitat</u> area.
Jetties, pontoons and boat ramps (public) – management A and B areas	
<p>PO26 Development that is for a public jetty, pontoon or boat ramp in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO26.1 Public jetties, pontoons and boat ramps have:</p> <ul style="list-style-type: none"> (1) a direct link to the activity of <u>fishing</u> (2) a proposed location that has been identified as the most suitable through a strategic planning approach (3) a demonstrated existing community requirement for the structure. <p>AND</p> <p>AO26.2 Public jetties, pontoons and boat ramps:</p> <ul style="list-style-type: none"> (1) do not require additional dredging within the declared <u>fish habitat</u> area for access (2) do not include associated infrastructure that does not have a physical requirement to be within a declared <u>fish habitat</u> area (3) have vessel staging areas that are appropriate for the size of the boat ramp (4) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.
<p>PO27 Development that is for a private jetty, pontoon or boat ramp in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>AO27.1 Private jetties, pontoons and boat ramps are located within management B areas of declared <u>fish habitat</u> areas only.</p> <p>AND</p> <p>AO27.2 Private jetties, pontoons and boat ramps:</p> <ul style="list-style-type: none"> (1) originate from an adjoining lot for which the applicant can demonstrate rights (2) do not extend from a lot that already has a jetty, pontoon, boat ramp or adjacent mooring unless the new structure is replacing an existing structure. <p>AND</p> <p>AO27.3 Private jetties, pontoons and boat ramps:</p> <ul style="list-style-type: none"> (1) do not require dredging to use the structure (2) have a total permanent footprint of less than 40 square metres (3) extend through a <u>marine plant</u> fringe less than 15 metres wide measured perpendicular to the shore (jetties and pontoons) and the jetty or pontoon access walkway is less than 2 metres wide (4) for boat ramps – extend through a mangrove fringe less than 3 metres wide measured perpendicular to the shore, and the total area of <u>marine plant</u> disturbance required for construction is less than 45 square metres (5) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration (6) do not adversely affect navigation.

Performance outcomes	Acceptable outcomes
Marina and port facilities – management A and B areas	
PO28 Development is not a marina or port.	No acceptable outcome is prescribed.
Moorings (public or cyclone)	
<p>PO29 Development that is for public vessel or cyclone moorings in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p> <p>Note: Moorings for restoration purposes are likely to be authorised under <i>MPO6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Fisheries and Forestry, 2013 as an endorsed rehabilitation plan.</p>	<p>A029.1 Vessel moorings located in the declared <u>fish habitat</u> area demonstrate an overriding community need.</p> <p>AND</p> <p>A029.2 Cyclone mooring are:</p> <ol style="list-style-type: none"> (1) specifically identified under the relevant port cyclone contingency plan by the controlling authority (for example, a port authority) (2) located in accordance with any cyclone mooring plan (identifying current and future demand) prepared by the controlling authority (3) only used during a cyclone event or other genuine emergency situation (4) available for use by other vessels when authorised by the relevant regional Harbour Master in the event of a cyclone. <p>OR</p> <p>A029.3 Moorings for restoring the <u>fish habitat</u> or natural processes of the declared <u>fish habitat</u> area:</p> <ol style="list-style-type: none"> (1) are a component of a project aimed at restoring a particular habitat type within the declared <u>fish habitat</u> area (such as a coral habitat) that has been degraded through vessel anchor damage (2) are public moorings (3) comply with the criteria under <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i>, Department of Primary Industries, 1998.
<p>PO30 Development that is for private vessel moorings in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p> <p>Editor’s note: Where appropriate, designated moorings areas (DMAs) are in place to accommodate private and individual moorings.</p> <p>Editor’s note: Environmentally friendly moorings (EFM) in a DMA within a management B area are authorised under self-assessable code <i>Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants (MPO6)</i> Department of Fisheries and Forestry, 2013 (no development approval required).</p>	<p>PO30.1 Private vessel moorings are only located in management B areas of declared <u>fish habitat</u> areas.</p> <p>AND</p> <p>A030.2 A private vessel mooring in a management B area:</p> <ol style="list-style-type: none"> (1) is located directly adjacent to a lot for which the applicant can demonstrate rights (2) is not located adjacent to a lot that already has a jetty, pontoon, boat ramp or adjacent mooring, unless the mooring is replacing these structures (3) is entirely within an extension of the side boundaries of the applicant’s property and on the same side of the <u>waterway</u> as the premises (4) will not interfere with <u>foreshore</u> access. <p>AND</p> <p>A030.3 A private vessel mooring:</p> <ol style="list-style-type: none"> (1) has an EFM design (2) does not require dredging to use the mooring.
Mosquito control – management A and B areas	
<p>PO31 Development that is works for mosquito control in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p> <p>Note: <i>MPO6 – Minor impact works in a declared fish</i></p>	<p>A031.1 For works for mosquito control in a declared <u>fish habitat</u> area, there is an overriding need for the works.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
<p><i>habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Fisheries and Forestry, 2013 authorises, and includes particular requirements for, self-assessable works for mosquito control for public health purposes.</p> <p>Editor's note: An approval is not required for pest management using pesticides or biological control of mosquitoes undertaken in accordance with <i>The lawful use of physical, pesticide and biological controls in a declared fish habitat area (FHACoPo1)</i>, Department of Primary Industries and Fisheries, 2005.</p>	<p>A031.2 Works for mosquito control:</p> <ol style="list-style-type: none"> (1) do not include works for the control of other nuisance pest insect species (for example, midges) (2) are identified as required to be carried out in the declared <u>fish habitat</u> area under a mosquito management plan developed in accordance with the <i>Mosquito management code of practice for Queensland</i>. <p>Note: Guidance on how to meet the acceptable outcomes is available in the <i>Mosquito management code of practice for Queensland</i>.</p> <p>AND</p> <p>A031.3 Runnelling works will comply with the policy guidelines in <i>Departmental procedures for permit applications assessment and approvals for insect pest control in coastal wetlands (FHMOP 003)</i>, Department of Primary Industries, 1996. A runnel must include:</p> <ol style="list-style-type: none"> (a) increase tidal flushing (b) follow lines of natural water flow (c) be no deeper than 30 centimetres (d) have a 3:1 width:depth ratio (e) a spoon shape with gently sloping concave sides (f) be designed to appropriately manage and dispose of acid sulfate soils.
Navigation aids	
<p>P032 Development that is for constructing a navigation aid in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>A032.1 The location of the navigation aid is:</p> <ol style="list-style-type: none"> (1) endorsed in writing by Maritime Safety Queensland (2) necessary, as all alternative options that do not require works in a declared <u>fish habitat</u> area have been considered, and are not viable or do not achieve timeframes for an urgent response to a public safety hazard.
Overhead electricity and communication cables	
<p>P033 Development that is for overhead electricity and communication cables in a declared <u>fish habitat</u> area minimises impacts on the declared <u>fish habitat</u> area.</p>	<p>P033.1 Overhead electricity and communication cables:</p> <ol style="list-style-type: none"> (1) Span the declared <u>fish habitat</u> area; or (2) If it is not possible to span the declared <u>fish habitat</u> area – are located in the management B area <p>AND</p> <p>A033.2 For overhead electricity and communication cables:</p> <ol style="list-style-type: none"> (1) rights over the works area can be demonstrated (for example, a power infrastructure easement) (2) future maintenance of the cables and their support infrastructure will not involve major adverse impacts on the declared <u>fish habitat</u> area. <p>AND</p> <p>A033.3 The development:</p> <ol style="list-style-type: none"> (1) minimises impacts through measures, such as using the maximum cable span length and minimising disturbance required for access (2) involves no permanent filling (for example, the construction of

Performance outcomes	Acceptable outcomes
	<p>permanent raised pads for the support structures or access causeways)</p> <p>(3) ensure that any associated warning signs do not require <u>marine plant</u> disturbance, unless this would compromise the purpose of the warning sign.</p>
Reclamation — management B areas only	
<p>PO34 Filling of <u>tidal land</u> is only to occur as a result of beach replenishment in management B areas.</p>	<p>A034.1 Filling of <u>tidal land</u> as a result of beach replenishment may occur in a management B area if:</p> <p>(1) all other reasonable options would have greater measurable impact on the management B area</p> <p>(2) the filled <u>land</u> is not for the placement of structures or infrastructure</p> <p>(3) the filled <u>land</u> is to be a sacrificial dune or beach that is an integral part of erosion control design, and will minimise the frequency or impact of ongoing replenishment or other erosion control activities on the management B area.</p>
Revetments, groynes and gabions (managing fisheries resources or fish habitat)	
<p>PO35 Revetments, groynes and gabions for the purpose of managing <u>fisheries resources</u> or <u>fish habitat</u> in a declared <u>fish habitat</u> area are designed and located to minimise impacts on the declared <u>fish habitat</u> area.</p>	<p>A035.1 Revetments, groynes and gabions for the purpose of managing <u>fisheries resources</u> or <u>fish habitat</u>:</p> <p>(1) are constructed as part of a government agency or community group project to manage <u>fisheries resources</u> or <u>fish habitats</u>, or</p> <p>(2) are for a fisheries or <u>fish habitat</u> management purpose, or</p> <p>(3) are undertaken by a government agency or community groups for public benefit, or</p> <p>(4) ensure feasible and measurable benefits outweigh the associated impacts.</p> <p>AND</p> <p>A035.2 Erosion control structures in management B areas:</p> <p>(1) result in no further permanent loss of <u>fish habitats</u> beyond the footprint of the structure</p> <p>(2) include rehabilitation of disturbed <u>fish habitats</u> to the greatest extent possible.</p>
Revetments, groynes and gabions (erosion control)	
<p>PO36 Revetments, groynes and gabions built for erosion control in a declared <u>fish habitat</u> minimise impacts on the declared <u>fish habitat</u> area.</p> <p>Editor’s note: From a <u>fish habitat</u> perspective, erosion protection structures (for example, gabions) that also serve to maintain or establish bank vegetation (for example, mangroves) may have greater benefit than structures focused at only achieving erosion protection. In addition, filled geotextile fabric may have benefits over harder materials in some circumstances, including easier removal where required.</p> <p>Editor’s note:</p> <p>(1) Further detail on <u>fish</u>-friendly structures is provided in <i>Fisheries guidelines for fish-friendly</i></p>	<p>A036.1 Revetments, groynes and gabions built for erosion control are located in management B areas of declared <u>fish habitat</u> areas.</p> <p>AND</p> <p>A036.2 Erosion control structures are:</p> <p>(1) located in a part of the management B area for which the applicant can demonstrate a level of rights or interests (for example, adjoining property)</p> <p>(2) located where there is evidence of significant erosion, or there is an immediate threat of significant erosion, which would result in the loss of one or more of the following—</p> <p>(a) the opportunity preserve the ability to use the <u>land</u> for its existing or approved purpose</p> <p>(b) infrastructure, structures or buildings that are not expendable or not able to be relocated</p>

Performance outcomes	Acceptable outcomes
<p><i>structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006 for a discussion of the benefits of geotextile fabric.</p> <p>(2) Further detail on erosion control and regularisation is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p>	<p>(3) located where there is an inadequate erosion buffer zone and managed retreat is not possible</p> <p>(4) the best available erosion management solution from both the erosion management and <u>fish habitat</u> management perspectives.</p> <p>AND</p> <p>A036.3 Erosion control structures:</p> <p>(1) include minimal regularisation of the <u>foreshore</u> boundary required to maintain a consistent alignment with adjacent properties as part of an erosion control strategy for the location</p> <p>(2) result in no further permanent loss of <u>fish habitats</u> beyond the footprint of the structure</p> <p>(3) include rehabilitation of disturbed <u>fish habitats</u> to the greatest extent possible.</p>
Signs	
<p>PO37 Signs in a declared <u>fish habitat</u> minimise impacts on the declared <u>fish habitat</u> area.</p>	<p>A037.1 For signs in a declared <u>fish habitat</u> area, there is an overriding community benefit involved in locating the sign in the declared <u>fish habitat</u> area if they are for:</p> <p>(1) warning the public of a hazard or danger, or</p> <p>(2) research or education:</p> <p>(a) where the educational benefits outweigh any impacts</p> <p>(b) where strategically located to achieve a high level of community use or benefit or awareness.</p> <p>AND</p> <p>A037.2 Signs do not involve disturbance of <u>marine plants</u> unless this would compromise the purpose of a warning sign (for example, the viewing arc).</p>
Stormwater outlets	
<p>PO38 Stormwater outlets built in a declared <u>fish habitat</u> area are designed and located to minimise impacts on the declared <u>fish habitat</u> area.</p>	<p>A038.1 Stormwater outlets are located in management B areas of declared <u>fish habitat</u> areas.</p> <p>AND</p> <p>A038.2 Stormwater outlet structures:</p> <p>(1) originate from adjoining <u>land</u> for which the applicant can demonstrate rights</p> <p>(2) are only used if stormwater storage, re-use and disposal on terrestrial <u>land</u> outside the declared <u>fish habitat</u> area is impractical.</p> <p>AND</p> <p>A038.3 The stormwater outlets:</p> <p>(1) incorporate current best practice water quality treatment techniques or apparatus</p> <p>(2) incorporate measures (for example, retention basins) upstream of the declared <u>fish habitat</u> area to reduce water velocities and discharge volumes (for example, retention basins).</p>
Tidal aquaculture – management A and B areas	
<p>PO39 Development that is tidal <u>aquaculture</u> is not supported in declared <u>fish habitat</u> areas.</p>	<p>A039.1 Placing of structures that constitute tidal works within licensed oyster areas in management B areas complies with the <i>Oyster industry management plan for Moreton Bay Marine Park</i>, Department of Primary</p>

Performance outcomes	Acceptable outcomes
	Industries and Fisheries, 2008.
Water impoundment structures (permanent) – management A and B areas	
PO40 Development is not for a permanent dam, weir, bund or other water impoundment structure in a declared <u>fish habitat</u> area.	No acceptable outcome prescribed.
All development – offsets	
PO41 Impacts of development on declared <u>fish habitat</u> areas that cannot be avoided or mitigated are offset.	<p>AO41.1 Marine <u>fish habitat</u> offsets to counterbalance unavoidable impacts of development on <u>fish habitats</u> or <u>fisheries resources</u> include, but are not limited to:</p> <ol style="list-style-type: none"> (1) works or activities to enhance or rehabilitate a <u>fish habitat</u> (2) the exchange of another <u>fish habitat</u> for a <u>fish habitat</u> affected by the development, or (3) a financial contribution to <u>fish habitat</u> research. <p>Editor's note: For more information about offsets, see the <i>Marine fish habitat offset policy (FHMOP 005.2)</i>, Department of Agriculture, Fisheries and Forestry, and the <i>Queensland Government environmental offsets policy</i>, Environmental Protection Agency, 2008.</p> <p>OR</p> <p>AO41.2 Offsets are not required for private development works that impact less than 17 square metres, or public works impacting less than 25 square metres of <u>fish habitat</u>.</p>
All development within a declared wild river area	
PO42 Development in a wild river area does not impact on U passage.	No acceptable outcome is prescribed.
PO43 Development in a wild river area does not impact on <u>fish habitat</u> values.	AO43.1 Development in tidal waters in a wild river area are designed and constructed using materials, and located, to ensure that the activities do not impact on <u>fish habitat</u> values and function.

5.2 Constructing or raising waterway barrier works in fish habitats state code

5.2.1 Purpose

The purpose of this code is to ensure that development of waterway barrier works; such as bridges, culvert crossings, causeways, bunds, levees, weir and dams, is designed and located to protect fish habitats and the connectivity between fish habitats, thus sustaining fisheries access and productivity. This code is designed to ensure that:

- (1) access for fish along waters and into key fish habitats is maintained and restored
- (2) the ability for fish to move through the waterway network and access alternative habitats is maintained and restored (longitudinal connectivity)
- (3) connectivity between main waterway channels and other aquatic habitats (for example, inundated floodplains) is maintained and restored (lateral connectivity).

5.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 5.2.1

Table 5.2.1: Operational work

Performance outcomes	Acceptable outcomes
All assessable waterway barrier works	
<p>PO1 The development will not increase the risk of mortality, <u>disease</u> or injury or compromise the health and productivity of <u>fisheries resources</u>.</p>	<p>AO1.3 The development ensures that one or more of the following is achieved:</p> <ol style="list-style-type: none"> (1) the <u>waterway barrier works</u> includes a <u>fish way</u> that adequately provides for the movement of <u>fish</u> across the barrier works, or (2) the movement of <u>fish</u> across the <u>waterway barrier works</u> is, adequately provided for in another way, or (3) the height of the <u>waterway barrier works</u> allows enough water to flow across the barrier works to adequately provide for the movement of <u>fish</u> across the barrier works, or (4) the <u>waterway barrier works</u> is intended to exist only for a temporary period, and the level of disruption to <u>fish</u> movement in the area is acceptable, or (5) it is not necessary or desirable, for the best management, use, development or protection of <u>fisheries resources</u> or <u>fish habitats</u>, for the <u>waterway barrier works</u> to provide for the movement of <u>fish</u> across the barrier works. <p>AND</p> <p>AO1.4 Suitable habitat conditions, such as water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u>.</p> <p>AND</p> <p>AO1.5 Cumulative effects of <u>waterway barrier works</u> do not impede <u>fish</u> movements, and will not affect reproductive success, health or mortality by depleting <u>fish</u> energy reserves.</p> <p>AND</p> <p>AO1.1 <u>Fish</u> will not become trapped or stranded as a result of development.</p> <p>OR</p> <p>AO1.2 Risks of <u>fish</u> stranding occurring have been identified and are demonstrably manageable.</p> <p>Editor's note: For guidance on how meeting this acceptable outcome see the <i>Fish salvage guidelines</i>, Department of Primary Industries and Fisheries, 2004.</p>
<p>PO2 Development maintains or enhances the community access to <u>fisheries resources</u> and <u>fish habitats</u>, through, for example <u>fishing</u> access and linkages between commercial fisheries and infrastructure, services and facilities.</p>	<p>AO2.1 The development does not impact on existing infrastructure or access required by commercial or recreational <u>fishing</u>.</p>

Performance outcomes	Acceptable outcomes
<p>PO3 Development that has the potential to impact on the operations and productivity of commercial or recreational fisheries mitigates any adverse impacts due to adjustment of fisheries.</p>	<p>AO3.1 Affected fisheries, and the impacts on those fisheries are identified.</p> <p>AO3.2 Fair and reasonable compensation to commercial fishers is determined.</p> <p>AO3.3 The impact of the development on commercial fisheries and recreational fishers is offset.</p>
<p>PO4 When the purpose of a <u>waterway</u> barrier is no longer relevant, or the design life of the structure is complete and the structure is not intended to be re-lifed, the <u>waterway</u> barrier will be removed.</p>	<p>AO4.1 At the end of the viable operation of the development, the <u>waterway</u> barrier (and where appropriate any <u>fish way</u>) will be removed from the <u>waterway</u> and <u>fish habitats</u> and <u>fish</u> passage will be reinstated to previous or better levels.</p> <p>AO4.2 If the barrier remains in place, <u>fish</u> passage provision in accordance with the approved design and operation is maintained as long as the barrier remains.</p>
<p>PO5 Development demonstrates appropriate rights and an overriding public need for the development, including consideration of any impacts beyond the footprint of the constructed development.</p> <p>Editor's note: For example, dams and weirs affect <u>fish habitats</u> up and downstream from the structure by pooling and restricting water flows.</p>	<p>AO5.1 The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impact on <u>fish habitats</u> have been properly considered.</p> <p>AND</p> <p>AO5.2 The following can be demonstrated:</p> <ol style="list-style-type: none"> (1) tenure is held for the <u>land</u> directly abutting the <u>waterway</u> where the works will be carried out and has the applicant has full riparian access rights on both sides of the barrier, and (2) tenure has been granted over the area of work, or (3) resource allocation or resource entitlement has been granted for the resource being developed. <p>AND</p> <p>AO5.3 Development is for public infrastructure.</p> <p>OR</p> <p>AO5.4 Development is for public infrastructure for which there is no alternative viable route that does not require <u>waterway barrier works</u>.</p> <p>OR</p> <p>AO5.5 Development is for a legitimate public health or safety issue and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p>
<p>PO6 Development minimises stream crossings.</p>	<p>AO6.1 Where multiple <u>waterway barrier works</u> are demonstrated to be essential, these are located a minimum of 100 metres apart (including existing structures).</p>
<p>PO7 Development avoids non-essential hardening or unnatural modification of channels.</p>	<p>AO7.1 The development does not involve the channelisation of meandering <u>waterways</u>.</p> <p>AO7.2 Where channels need to be significantly modified, the development simulates natural watercourses by including meanders, pools, riffles, shaded and open sections, deep and shallow sections, and different types of substrata. Natural features such as rock outcrops and boulders are retained or recreated.</p>
<p>PO8 Impacts on water quality in declared <u>fish habitat</u> areas are minimised.</p>	<p>AO8.1 Development involves erosion and sediment control measures.</p> <p>Editor's note: Erosion and sediment control should be in accordance with the <i>Best practice erosion and sediment control guidelines</i>, International Erosion Control Association Australasia, 2008.</p>
<p>PO9 Development resulting in drainage or disturbance of acid sulfate soil is managed to</p>	<p>AO9.1 Run-off and leachate from disturbed or oxidised acid sulfate soils is contained, treated and not released to a waterway or other fish habitat in</p>

Performance outcomes	Acceptable outcomes
prevent impacts on <u>fisheries resources</u> and <u>fish habitats</u> .	accordance with the <i>Queensland acid sulfate soils technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.
PO10 Impacts of development on <u>fish habitat</u> and <u>fish</u> passage that cannot be avoided or mitigated are offset.	PO10.1 The development provides a <u>fish habitat</u> offset to counterbalance residual impacts of development on <u>fish</u> movement or habitats. The offset includes, but is not limited to: <ol style="list-style-type: none"> (1) works or activities to enhance or rehabilitate <u>fish</u> passage or other aspects of a <u>fish habitat</u>, or (2) the exchange of another <u>fish habitat</u> for a <u>fish habitat</u> affected by the development, or (3) a contribution to <u>fish habitat</u> research relevant to <u>fish</u> passage or <u>fish habitat</u> usage.
Incorporation of fish ways	
PO11 Where the <u>waterway barrier works</u> will be a barrier to <u>fish</u> movement, provisions are made for adequate <u>fish</u> movement by incorporating a <u>fish way</u> or <u>fish ways</u> for the works. Editor's note: Guidelines to assist <i>Waterway barrier works development approvals (FHMOP 008)</i> , Department of Agriculture, Fisheries and Forestry, 2012.	No acceptable outcome is prescribed.
PO12 Any <u>fish way</u> proposed as part of the development is demonstrated to be a feasible and reliable solution that will provide adequate <u>fish</u> passage. Editor's note: Further information about the importance of <u>fish</u> passage and design considerations can be found in the book <i>From sea to source: International guidance for the restoration of fish migration highways</i> .	AO12.1 A person or <u>entity</u> that is suitably qualified and experienced in <u>fish</u> passage biology and <u>fish way</u> design and delivery demonstrates and verifies that any <u>fish way</u> design will provide adequate <u>fish</u> passage. AND AO12.2 Development uses a <u>fish way</u> design that has been successfully implemented under similar conditions (such as flows and <u>fish</u> communities) and has been demonstrated to provide adequate <u>fish</u> passage through actual scientific monitoring. AND AO12.3 Development provides for the installation of monitoring equipment, such as traps and lifting equipment, access for monitoring, and a monitoring program of sufficient rigour to: <ol style="list-style-type: none"> (1) demonstrate the success of the <u>fish way</u> and <u>fish</u> passage at the site (2) provide the basis for optimising operation of the works and <u>fish way</u>. AND AO12.4 The <u>fish way</u> design maximises flexibility for future adjustments that may be needed once in place. AND AO12.5 The owner or operator demonstrates the means and commitment to promptly rectify any faults found in the <u>fish way</u> during commissioning, monitoring and operation, if these lead to inadequacies in the <u>fish</u> movement that are provided. AND AO12.6 Any tailwater control structures such as a gauging weir, rock bar or stream crossings are fitted with a <u>fish way</u> or designed to allow <u>fish</u> passage.

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p>AO12.7 Any existing in-stream structure downstream of the proposed <u>waterway barrier works</u>, which increases the barrier effect to <u>fish</u> passage through changes in flow characteristics, is fitted with adequate <u>fish</u> passage facilities.</p>
<p>PO13 Lateral (upstream and downstream) and longitudinal <u>fish</u> movement is provided for.</p>	<p>AO13.1 More than one <u>fish way</u> is provided, for example, to provide up and downstream <u>fish</u> passage or to provide <u>fish</u> passage under a range of flow regimes.</p>
<p>PO14 Any <u>fish way</u> is be capable of operating whenever there is flow in the <u>waterway</u> (inflow or release), the dam is above dead storage level, and the <u>fish way</u> will be operational for as long as the <u>waterway</u> barrier is in position.</p>	<p>AO14.1 The operational range of a <u>fish way</u> is sufficient having regard to the hydrology of the site and the <u>fish</u> movement characteristics (in particular timing of movements in relation to seasons and hydrographs).</p> <p>AND</p> <p>AO14.2 The lower operational range of the <u>fish way</u> is down to at least 0.5 metres below minimum headwater drawdown level (dead storage or minimum off-take level, whichever is lower) and to at least 0.5 metres below minimum tail water level at the site.</p> <p>AND</p> <p>AO14.3 Upstream and downstream <u>fish ways</u> will be operated whenever there are inflows into the impoundment or release out of the impoundment, and during overtopping events.</p> <p>AND</p> <p>AO14.4 All releases are directed firstly through the <u>fish way</u> as a priority over the outlet works, with the <u>fish way</u> being operated whenever a release is made through it, regardless of whether the release volume is less than the optimal minimum release for <u>fish way</u> operation.</p> <p>AND</p> <p>AO14.5 The <u>fish way</u> is designed such that non-operation duration (for example, less than two weeks) and incidents due to maintenance issues (for example, siltation, debris, breakdowns, sourcing of parts) are minimised.</p> <p>AND</p> <p>AO14.6 <u>Fish ways</u> are monitored and maintained to ensure that the <u>fish way</u> is operational at all times.</p> <p>Editor's note: For further guidance about meeting the acceptable outcomes, see <i>Waterway barrier works development approvals (FHMOP 008)</i>, Department of Agriculture, Fisheries and Forestry, 2012.</p>
<p>PO15 Any <u>fish way</u>, and all associated componentry are designed to be durable, reliable and adequately protected from damage from high flow and flood events, to prevent or minimise non-operation.</p>	<p>PO15.1 Development ensures that mechanisms are in place to ensure that operational issues in <u>fish ways</u> are promptly rectified for the life of the <u>fish way</u>.</p> <p>AND</p> <p>PO15.2 The quality of materials and components for construction of the <u>fish way</u> are appropriate for the intended service life of the <u>fish way</u>.</p> <p>Editor's note: For guidance on meeting the acceptable outcomes, see <i>Waterway barrier works development approvals (FHMOP 008)</i>, Department of Agriculture, Fisheries and Forestry, 2012.</p>
<p>PO16 Any <u>fish way</u> is located in a position and manner that maximise the attraction and movement of <u>fish</u>, while also enabling access</p>	<p>AO16.1 Modelling demonstrates, by showing the likely flow patterns and adjacent to the <u>fish way</u> entrance, that the location of the <u>fish way</u> entrance is optimal for <u>fish</u> attraction across the operational range of the <u>fish way</u>.</p>

Performance outcomes	Acceptable outcomes
for monitoring, maintenance and operating purposes.	<p>AND</p> <p>AO16.2 Outlet works are adjacent to the <u>fish way</u>, but are positioned and designed so as not to interfere with <u>fish</u> access and attraction to the <u>fish way</u> entrance during outlet releases.</p> <p>AND</p> <p>AO16.3 Spillway overtopping flows initiate and terminate adjacent to the <u>fish way</u> or are directed parallel to the <u>fish way</u> entrance.</p> <p>AND</p> <p>AO16.4 Spillway flows are transferred to <u>fish way</u> releases as soon as possible during a flow recession.</p> <p>AND</p> <p>AO16.5 There is a continuous attraction flow at all times at the <u>fish way</u> entrance when the <u>fish way</u> is operating.</p> <p>AND</p> <p>AO16.6 Attraction flow velocities are sufficient and variable to attract the whole <u>fish</u> community.</p> <p>AND</p> <p>AO16.7 Appropriate light levels are maintained at <u>fish way</u> entrances.</p> <p>AND</p> <p>AO16.8 Additional means of <u>fish</u> attraction are included in the <u>fish way</u> design if appropriate.</p> <p>AND</p> <p>AO16.9 The <u>fish way</u> entrance is accessible under all flow conditions within its operating range.</p> <p>AND</p> <p>AO16.10 <u>Fish</u> attracted to the spillway are able to access the <u>fish way</u> without having to swim back downstream.</p> <p>AND</p> <p>AO16.11 Water supply for the <u>fish ways</u> and attraction flows are sourced from surface quality water or equivalent quality water.</p> <p>AND</p> <p>AO16.12 There are adequate holding chamber dimensions for the <u>fish</u> biomass (for lock, lift, trap and transfer type <u>fish ways</u>).</p> <p>AND</p> <p>AO16.13 The fish way has adequate hydraulic conditions for all <u>fish</u> within and throughout the <u>fish ways</u>.</p>
PO17 The seasonal and flow-related biomass of the <u>fish</u> community at the location of the <u>waterway barrier works</u> has been surveyed, and has been catered for in the design of the <u>fish way</u> .	<p>AO17.1 The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise failure to pass any members of the <u>fish</u> community, for example, due to size, class or swimming ability.</p> <p>AND</p> <p>AO17.2 Future increases in <u>fish</u> biomass are quantified and catered for in the design of the fish way (for example, in capacity or flexibility of operation).</p>
PO18 <u>Fish ways</u> and other means of <u>fish</u> passage at <u>waterway barrier works</u> cater for	AO18.1 The seasonal and flow-related composition of the <u>fish</u> community at the location of the <u>waterway barrier works</u> is well understood and catered for.

Performance outcomes	Acceptable outcomes
the whole <u>fish</u> community taking into account species, size classes, life stages and swimming abilities.	AND AO18.2 The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise any delays in <u>fish</u> movement.
<p>PO19 Development does not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity in <u>fish</u>.</p> <p>Editor's note: Refer to the <i>Fish salvage guidelines</i>, Department of Primary Industries and Fisheries, 2004 for further guidance.</p>	<p>AO19.1 All pathways providing <u>fish</u> passage at a proposed <u>waterway barrier works</u> are safe for <u>fish</u> to pass.</p> <p>AND</p> <p>AO19.2 <u>Fish</u> passage will not adversely impact on the wellbeing of <u>fish</u>.</p> <p>AND</p> <p>AO19.3 The designs of all components of <u>waterway</u> barriers, including but not limited to spillway, stilling basin, apron and dissipation structures, are developed and implemented with safe downstream <u>fish</u> passage as a key design consideration.</p> <p>Note: A stepped spillway (including sheet pile weirs) is not an acceptable solution as high mortalities and injuries to <u>fish</u> have been associated with such designs.</p> <p>AND</p> <p>AO19.4 There is adequate minimum tailwater depth at the toe of the spillway (for example, stilling basin) at commencement to spill (for example, 30 per cent of the head difference).</p> <p>AND</p> <p>AO19.5 Intake and outlet works adjacent to the <u>waterway</u> barrier are screened or otherwise designed and placed to prevent <u>fish</u> passing through or becoming trapped in these works.</p> <p>AND</p> <p>AO19.6 Intake screen dimensions are such that small <u>fish</u> are not drawn through the outlet works and velocities are low enough that <u>fish</u> are not impinged or entrained on the screens.</p> <p>AND</p> <p>AO19.7 The <u>fish way</u> exit is located so as to avoid entrainment in any outlet work screens and avoid <u>fish</u> being washed back over the spillway during overtopping.</p> <p>AND</p> <p>AO19.8 Cover is provided for <u>fish</u> moving from the exit.</p> <p>AND</p> <p>AO19.9 <u>Fish</u> exit upstream and downstream <u>fish ways</u> at the water level over the full range of tailwater and headwater levels.</p> <p>AND</p> <p>AO19.10 Trash and debris are excluded from the upstream <u>fish way</u> exit and downstream <u>fish way</u> entrance with designs that ensure that <u>fish</u> can access the exits and entrances, and that the <u>fish way(s)</u> are not blocked or damaged by trash or debris.</p> <p>AND</p> <p>AO19.11 Adequate minimum depth is maintained through the <u>fish way</u>.</p> <p>AND</p> <p>AO19.12 The risk of <u>fish</u> kills arising from the works are minimised (for example, through entrapment of <u>fish</u> upstream or between works).</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO19.13 Contingency plans in case of mechanical or electrical failure of <u>fish ways</u> are in place.</p> <p>AND</p> <p>AO19.14 The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise predation within and upon the <u>fish</u> community using the <u>fish way</u>.</p>
Inherent barrier design and provision of fish passage	
<p>PO20 <u>Fish</u> passage is provided for:</p> <ol style="list-style-type: none"> (1) in the inherent design of the <u>waterway barrier works</u> (2) over the in-situ life of the barrier in that position through adequate construction and maintenance of the barrier. <p>Editor's note: For further guidance see: <i>Waterway barrier works development approvals (FHMOP 008)</i>, Department of Agriculture, Fisheries and Forestry, 2012.</p>	<p>AO20.1 Development avoids or minimises loss of, or modification to, <u>fish habitat</u>.</p> <p>AND</p> <p>AO20.2 The drownout characteristics of the <u>waterway</u> barrier allow for adequate <u>fish</u> passage at the site.</p> <p>AND</p> <p>AO20.3 At drownout, the conditions at the barrier are such that:</p> <ol style="list-style-type: none"> (1) the tailwater and headwater levels across the weir are essentially equal (2) velocities are sufficiently low for <u>fish</u> passage (e.g. 0.3 metres/second) at or close to the edge of the spillway crest (3) the weir is fully submerged to a sufficient depth to allow for <u>fish</u> passage, and for the species and size classes of <u>fish</u> moving through the site to cross the weir (4) to the degree that provides for adequate <u>fish</u> passage at the site. <p>AND</p> <p>AO20.4 The frequency, timing and duration of drownout conditions are adequate for the movement requirements of the <u>fish</u> community moving past the barrier.</p> <p>AND</p> <p>AO20.5 Delays to <u>fish</u> passage when there are flows in the system but no <u>fish</u> passage in the rising hydrograph are accurately defined for the design, and avoided or limited to a maximum of three days.</p> <p>AND</p> <p>AO20.6 In assessing whether the inherent barrier design provides adequate <u>fish</u> passage, impacts on lateral and longitudinal <u>fish</u> movement are considered.</p>
<p>PO21 The use of floodgates is avoided or minimised.</p>	<p>AO21.1 There is an overriding need for new floodgates, and other alternatives are unviable.</p> <p>AND</p> <p>AO21.2 Hydraulic conditions through the floodgates are adequate for <u>fish</u> passage.</p> <p>AND</p> <p>AO21.3 Floodgates are designed and operated as (tidally activated) automatic floodgates.</p> <p>AND</p> <p>AO21.4 The invert of the floodgate is at bed level.</p> <p>AND</p> <p>AO21.5 Floodgates allow for <u>fish</u> passage over an adequate duration of the tidal cycle.</p>

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p>AO21.6 The operation of the floodgate will not result in impacts on water quality that may impact on <u>fish</u> or <u>fish habitat</u>.</p>
<p>PO22 <u>Waterway</u> barriers that are bridges are designed, constructed and maintained to provide adequate <u>fish</u> passage for the site and:</p> <p>(1) <u>fish</u> passage is provided for the life of the crossing</p> <p>(2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the drownout of the structure.</p>	<p>AO22.1 A bridge that is designed to allow adequate <u>fish</u> passage is preferentially installed to a culvert.</p> <p>AND</p> <p>AO22.2 In-stream bridge structures such as piles are minimised.</p> <p>AND</p> <p>AO22.3 Bridge support piles are not constructed within the low-flow channel or so that they constrict the edges of the low-flow channel.</p> <p>AND</p> <p>AO22.4 Bridge abutments do not extend into the <u>waterway</u> beyond the toes of the banks.</p> <p>AND</p> <p>AO22.5 Bank revetment works do not extend into the <u>waterway</u> beyond the toes of the banks.</p> <p>AND</p> <p>AO22.6 Permanent access or erosion control structures within the main channel adjacent to the bridge are set at or below bed level, roughened to approximately simulate natural bed conditions, and maintained so that there are no drops in elevation at their edges or joins with the stream bed.</p>
<p>PO23 <u>Waterway</u> barriers that are culverts provide adequate <u>fish</u> passage for the site, and:</p> <p>(1) <u>fish</u> passage is provided for the life of the crossing</p> <p>(2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the drownout of the structure.</p>	<p>AO23.1 Culverts are only installed where the site conditions do not allow for a bridge.</p> <p>AND</p> <p>AO23.2 The combined width of the culvert cell apertures are equal to 100 per cent of the main channel width.</p> <p>AND</p> <p>AO23.3 The culvert crossing and associated erosion protection structures are installed at no steeper gradient than the <u>waterway</u> bed gradient.</p> <p>AND</p> <p>AO23.4 For the life of the culvert crossing, relative levels of the culvert invert, apron and scour protection and the stream bed are kept so that there are no drops in elevation at their respective joins.</p> <p>AND</p> <p>AO23.5 The base of the culvert is:</p> <p>(1) buried a minimum of 300 millimetres to allow bed material to deposit and reform the natural bed on top of the culvert base, or</p> <p>(2) the base of the culvert is the stream bed, or</p> <p>(3) the base of the culvert cell is roughened throughout the culvert floor to approximately simulate natural bed conditions.</p> <p>AND</p> <p>AO23.6 The outermost culvert cells incorporate roughening elements such as baffles on their bankside sidewalls.</p> <p>AND</p> <p>AO23.7 Roughening elements are installed on the upstream wingwalls on both</p>

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	<p>banks to the height of the upstream obvert or the full height of the wingwall. AND</p> <p>AO23.8 Roughening elements provide a contiguous lower velocity zone (no greater than 0.3 metres/second) for at least 100 millimetres width from the wall through the length of the culvert and wingwalls. AND</p> <p>AO23.9 In-stream scour protection structures are roughened throughout to approximately simulate natural bed conditions. AND</p> <p>AO23.10 Culvert alignment to the stream flow minimises water turbulence. AND</p> <p>AO23.11 There is sufficient light at the entrance to and through the culvert so that <u>fish</u> are not discouraged by a sudden descent into darkness. AND</p> <p>AO23.12 The depth of cover above the culvert is as low as structurally possible, except where culverts have an average recurrence interval (ARI) greater than 50 years. AND</p> <p>AO23.13 For culvert crossings designed with a flood immunity >ARI 50, <u>fish</u> passage is provided up to culvert capacity. AND</p> <p>AO23.14 Adequate design (for example, culvert aperture) and maintenance measures are in place for the life of the crossing to keep crossings clear of blockages through a regular inspection program in order to retain <u>fish</u> passage through the crossing. AND</p> <p>AO23.15 Crossings within the bed and banks do not incorporate culverts.</p>
<p>PO24 <u>Waterway</u> crossings other than bridges or culverts provide adequate <u>fish</u> passage for the site and:</p> <ol style="list-style-type: none"> (1) <u>fish</u> passage is provided for the life of the crossing (2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the drownout of the structure. 	<p>AO24.1 The crossing is built at or below bed level so that the surface of the crossing is no higher than the stream bed at the site. AND</p> <p>AO24.2 For the life of the crossing, relative levels of the crossing, any bed erosion or scour protection and the stream bed are kept so that there are no drops in elevation at their respective joins. AND</p> <p>AO24.3 The crossing and associated erosion protection structures are installed at no steeper gradient than the <u>waterway</u> bed gradient. AND</p> <p>AO24.4 The crossing and associated erosion protection structures are roughened throughout to approximately simulate natural bed conditions. AND</p> <p>AO24.5 The lowest point of the crossing is installed at the level of the lowest point of the natural stream bed (pre-construction), within the footprint of the proposed crossing. AND</p> <p>AO24.6 There is a height difference from the lowest point of the crossing to the</p>

Performance outcomes	Acceptable outcomes
	<p>edges of the low flow section of the crossing to channel water into the low flow section.</p> <p>AND</p> <p>AO24.7 The level of the remainder of the crossing is no higher than the lowest point of the natural stream bed outside of the low flow channel.</p>
<p>PO25 All <u>waterway barriers</u> are designed, constructed and maintained to provide adequate <u>fish</u> passage for the site and <u>fish</u> passage is provided for the life of the barrier.</p>	<p>AO25.1 Hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the barrier at all flows up to the drownout of the structure.</p> <p>AND</p> <p>AO25.2 Aperture size of openings (for example, at screens or trash racks) ensures adequate <u>fish</u> passage.</p> <p>AND</p> <p>AO25.3 Hydraulic conditions are such that adequate <u>fish</u> passage is provided.</p> <p>AND</p> <p>AO25.4 Flows across, or releases out of, the structure are such that adequate <u>fish</u> passage is provided in terms of timing, frequency and duration, as well as water volume and depth.</p> <p>AND</p> <p>AO25.5 Water quality across the barrier allows for <u>fish</u> passage.</p>
Temporary waterway barrier works	
<p>PO26 The temporary <u>waterway barrier works</u> will exist only for a temporary period and cause a minimal and acceptable disruption to <u>fish</u> movement in the area, during the period of installation.</p> <p>Editor's note: <i>Code for self assessable development Temporary waterway barrier works (WWBW02)</i>, Department of Employment, Economic Development and Innovation, 2010 and the GIS data layer 'Queensland Waterways for Waterway Barrier Works' provide guidance on the acceptable length of time that a temporary barrier may be acceptable in particular streams.</p>	<p>AO26.1 Temporary <u>waterway barrier works</u> can be in place at a given site for no more than 12 months.</p> <p>AND</p> <p>AO26.2 In tidal waters, to ensure significant impacts on upstream and downstream habitats are avoided, the temporary <u>waterway barrier works</u> will not completely block the <u>waterway</u> for more than 3 weeks, unless steps taken to ensure water exchange occurs (such as breaching of the bund or pumping water), to prevent upstream <u>marine plants</u> and benthos being submerged in freshwater, or the barrier is sufficiently permeable.</p> <p>AND</p> <p>AO26.3 Delays to <u>fish</u> movement are avoided at times when <u>fish</u> are known to be undertaking upstream spawning migrations, even on very small or zero flow events or river rises. <u>Waterway barrier works</u> are scheduled out of this period, or other provision for <u>fish</u> movement is made (for example, the use of a partial barrier, periodic barrier, stream diversion or <u>fish way</u>).</p> <p>AND</p> <p>AO26.4 Where there are species at the site that require downstream movement during works, provisions are made to allow those species to move downstream.</p> <p>AND</p> <p>AO26.5 Water diversion around the site or through the barrier is implemented if the barrier is in position for more than four weeks, and there is any flow in the system for the purpose of ensuring that vegetation die-off, decomposition and associated reduction in water quality does not become an issue upstream of the barrier, in areas where there is more than 30 per cent coverage of terrestrial</p>

Performance outcomes	Acceptable outcomes
	<p>grasses within the ponded area.</p> <p>AND</p> <p>AO26.6 Where there are aquatic macrophytes immediately downstream of the barrier and those macrophytes would ordinarily be submerged or partially submerged, water will need to be passed across the barrier at all times to avoid their desiccation.</p> <p>AND</p> <p>AO26.7 On removal of a temporary barrier, full movement for <u>fish</u> is reinstated.</p> <p>AND</p> <p>AO26.8 On removal of a temporary barrier, the <u>waterway</u> bed and banks are returned to their original profile and stability, so that long-term <u>fish</u> movement at the site is not compromised.</p>
<p>PO27 <u>Fish</u> movement is required past temporary <u>waterway barrier works</u> where the duration of the barrier is greater than that allowed for the site under the <i>Code for self assessable development Temporary waterway barrier works (WWBW02)</i>, Department of Employment, Economic Development and Innovation, 2010.</p> <p>Editor's note: <i>Code for self assessable development Temporary waterway barrier works (WWBW02)</i>, Department of Employment, Economic Development and Innovation, 2010 and the GIS data layer 'Queensland waterways for waterway barrier works' provide guidance on the acceptable length of time that a temporary barrier may remain in place in particular streams.</p>	<p>AO27.1 Development provides for adequate <u>fish</u> movement through the incorporation of a <u>fish way</u> or <u>fish ways</u> for the works.</p> <p>AND</p> <p>AO27.2 The barrier:</p> <ol style="list-style-type: none"> (1) is a partial barrier, and (2) does not constrict the area or flows of a low flow channel, and (3) all work will be completed (and the barrier removed) during low flows when the flow will be contained wholly within a low flow channel. This would require a predictable flow regime where the likelihood of flow events during the works is very small (for example a 1 in 20 year probability). <p>AND</p> <p>AO27.3 The barrier is opened periodically every five days for at least 48 hours to allow <u>fish</u> movement and water exchange.</p> <p>AND</p> <p>AO27.4 <u>Fish</u> movement is provided for via a stream diversion.</p>
<p>PO28 Erosion control elements of the temporary <u>waterway barrier works</u> do not impact on <u>fish</u> passage.</p>	<p>AO28.1 The use of gabions is avoided to prevent <u>fish</u> entrapment on receding flows.</p>
<p>PO29 <u>Fish</u> passage is not necessary or desirable for the best management, use, development or protection of <u>fisheries resources</u> or <u>fish habitats</u>, for the temporary <u>waterway barrier works</u> to provide for the movement of <u>fish</u> across the barrier works.</p> <p>Editor's note: 'Other barriers' referred to in the <i>Fisheries Act 1994</i> may be applied to existing natural barriers that preclude upstream <u>fish</u> movement. Provision of upstream <u>fish</u> movement at barrier works on the site of a waterfall that does not drownout is not necessary, providing that the works do not impact on climbing <u>fish</u> species (for example, with the installation of smooth surfaces or overhangs).</p> <p>Editor's note: Guidelines to assist with assessment: <i>Waterway barrier works development approvals</i></p>	<p>AO29.1 It is demonstrated through an appropriate level of scientifically designed and executed <u>fish</u> survey by a suitably qualified and experienced entity that there are no <u>fish</u> in the area during any flow regimes.</p> <p>AND</p> <p>AO29.2 The conditions at the site causing <u>fish</u> to be absent are not able to be remediated while the proposed barrier is in place.</p> <p>OR</p> <p>AO29.3 There are other barriers in the area where the <u>waterway barrier works</u> is, or is to be, located which prevent movement of <u>fish</u> located in the area.</p> <p>AND</p> <p>AO29.4 Other barriers in the area of the <u>waterway barrier works</u> could not reasonably be expected to be modified or removed in the future to restore <u>fish</u> passage.</p> <p>AND</p> <p>AO29.5 <u>Fish</u> passage is not provided where this would introduce <u>fish</u> (including</p>

Performance outcomes	Acceptable outcomes
<p>(FHMOP 008), Department of Agriculture, Fisheries and Forestry, 2012.</p>	<p><u>non-endemic fish</u> or noxious fish) into an area where these species were not previously found, and this would be more detrimental to the existing <u>fish</u> community than the effect of the barrier.</p>
Construction	
<p>PO30 The construction of <u>waterway barrier works</u> does not limit the movement or wellbeing of <u>fish</u>.</p> <p>Editor's note: For more information, see <i>Waterway barrier works development approvals (FHMOP 008)</i>, Department of Agriculture, Fisheries and Forestry, 2012</p>	<p>AO30.1 Work does not commence during times of elevated flows. AND AO30.2 Excavation work in unbunded tidal areas is to be scheduled to occur within two hours either side of low tide. AND AO30.3 In-stream work is scheduled for the driest time of the year. AND AO30.4 In-stream construction is completed as quickly as possible to lessen the impact on <u>fish</u> and habitats, and timed to minimise conflict with <u>fish</u> migrations. AND AO30.5 Routes for the developments are planned to minimise the impact on <u>fish</u> passage and <u>fish habitat</u> (for example, roads and railways minimise crossings and avoid crossings in environmentally sensitive areas).</p>
<p>PO31 The development does not cause, or minimises direct or indirect disturbance to the bed and banks adjacent to the approved footprint of works.</p> <p>Editor's note: For more information, see <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i>, Department of Primary Industries, 1998.</p>	<p>AO31.1 Removal of stream-bank vegetation and disturbance to the natural banks and bed of the <u>waterway</u> is avoided or minimised. AND AO31.2 Disturbance to the outer bank of <u>waterway</u> beds during work and while gaining access is minimised. AND AO31.3 Heavy machinery is excluded from fragile areas and areas which host <u>fisheries resources</u>. AND AO31.4 After completion of the in-stream works, all areas of the bed and banks of the <u>waterway</u> that are outside of the approved permanent footprint of the works, and which have been disturbed as a result of the construction or raising of the <u>waterway barrier works</u>, are returned to their original profile and stabilised to promote regeneration of natural <u>fish habitats</u>. AND AO31.5 By the completion of works, the profiles of the bed and banks are reinstated to natural stream profiles and stability. AO31.6 The <u>waterway</u> bed will be retained with natural substrate, or reconstructed with substrate comparable to the natural substrate size and consistency. AND AO31.7 Vegetation and cover will be rapidly re-established so that the native plant community at the site can recover or be enhanced (for example, by using native species). AND AO31.8 <u>Fish habitats</u>, including <u>fisheries resource</u> values, will be able to naturally regenerate to pre-works conditions. Editor's note: Monitoring of the success of <u>fish habitat</u> regeneration, within and adjacent</p>

Performance outcomes	Acceptable outcomes
	to the work site, will be a development permit condition.
Development within a wild river area	
PO32 Development in a wild river area does not impact on <u>fish</u> passage.	No acceptable outcome is prescribed.
PO33 Development in a wild river area does not impact on <u>fish habitat</u> values.	AO33.1 Development in a wild river area in tidal waters are designed and constructed using materials, and located, to ensure that the activities do not impact on <u>fish habitat</u> values and function.
PO34 Development does not release pollutants into the wild river area.	No acceptable outcome is prescribed.

5.3 Removal, destruction or damage of marine plants state code

5.3.1 Purpose

The purpose of this code is to ensure the protection of marine plant communities that are fisheries resources and to ensure development provides ecosystem services that support fisheries productivity.

5.3.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 5.3.1
Operational work	Table 5.3.1
Reconfiguring a lot	Table 5.3.1

Table 5.3.1: Operational work (including operational work as part of a material change of use or reconfiguring a lot)

Performance outcomes	Acceptable outcomes
PO1 Development avoids and protects <u>fish habitats</u> and <u>fisheries resources</u> .	<p>AO1.1 A buffer surrounding <u>fish habitats</u> is provided and has a minimum width of:</p> <ul style="list-style-type: none"> (1) For tidal <u>fish habitats</u>— <ul style="list-style-type: none"> (a) 100 metres above <u>highest astronomical tide</u> outside an urban area, or (b) 50 metres above <u>highest astronomical tide</u> within an urban area (2) non-tidal <u>fish habitats</u>— <ul style="list-style-type: none"> (a) 50 metres above bankful width outside an urban area or (b) 25 metres above bankful width within an urban area. <p>Editor’s note: Guidelines to assist with determining the appropriate buffer widths:</p> <ul style="list-style-type: none"> (1) <i>Fisheries guidelines for fish habitat buffer zones (FHG 003)</i>, Department of Primary Industries, 2000

Performance outcomes	Acceptable outcomes
<p>PO2 There is a demonstrated right to propose development within or adjacent to the public <u>fish habitats</u> and <u>fisheries resources</u>.</p> <p>Editor's note: Further guidance on rights in context of <u>fisheries resources</u> and <u>fish habitats</u> is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i>, Department of Primary Industries and Fisheries, 2008.</p>	<p>(2) <i>Queensland wetland buffer planning guideline</i>, Department of Natural Resources and Mines, 2011.</p> <p>AO2.1 The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impact on <u>fish habitats</u> have been properly considered.</p> <p>OR</p> <p>AO2.2 Development is for public infrastructure.</p> <p>OR</p> <p>AO2.3 Development is for public infrastructure for which there is no alternative viable route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>OR</p> <p>AO2.4 Development is for a legitimate public health or safety issue, and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p> <p>OR</p> <p>AO2.5 The following can be demonstrated:</p> <ol style="list-style-type: none"> (1) tenure is held for the <u>land</u> directly abutting the <u>tidal land</u> and has full riparian access rights, or (2) tenure has been granted over the area of work, or (3) resource entitlement or resource allocation has been granted for the resource being developed, or (4) for private development work that is a jetty, pontoon or boat ramp, no other maritime access structure adjoins the property.
<p>PO3 There is an overriding functional requirement for the development or part of the development to be located on <u>tidal lands</u>.</p> <p>Editor's note: Development components that have a functional requirement to be located over <u>fish habitats</u> are acceptable. For example car park areas (including for boat ramps), parklands, marina offices, spoil disposal or amenity facilities do not depend on their location to be on or over <u>tidal lands</u> to function, where alternatives of lesser impact exist.</p>	<p>AO3.1 Development is for maritime infrastructure (for example, jetty, boat ramp, moorings).</p> <p>OR</p> <p>AO3.2 Development is lineal or nodal infrastructure required to cross or be located within a <u>waterway</u> or tidal area (for example, bridge, culvert crossing, stormwater outlet, pipeline).</p> <p>OR</p> <p>AO3.3 The access is required for the construction of the marine or lineal infrastructure.</p>
<p>PO4 Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish habitats</u>, such as through <u>fishing access</u> and linkages between the commercial fishery and infrastructure, services and facilities.</p>	<p>AO4.1 The development does not impact on existing infrastructure or access required by <u>fishing sectors</u>.</p>

Performance outcomes	Acceptable outcomes
<p>PO5 Development that has the potential to impact on the operations and productivity of Queensland commercial or recreational fisheries mitigates any adverse impacts due to adjustment of fisheries.</p>	<p>AO5.1 Affected fisheries, and the impacts on those fisheries, are identified. AND AO5.2 Fair and reasonable compensation to commercial fishers is determined. AND AO5.3 The impact of the development on commercial fisheries and recreational fishers is offset in accordance with the <i>Guideline on fisheries adjustment</i>, Department of Fisheries and Forestry. Editor's note: The <i>Guideline on fisheries adjustment</i> provides advice for proponents on relevant fisheries adjustment processes and is available by request from the Department of Fisheries and Forestry.</p>
<p>PO6 The development will not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity of <u>fisheries resources</u>.</p>	<p>AO6.1 <u>Fish</u> will not become trapped or stranded as a result of development. AND AO6.2 Risks of <u>fish</u> stranding occurring have been identified, and are demonstrably manageable. AND AO6.3 Suitable habitat conditions, such as water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u>. AND AO6.4 Herbicides are not used on, and will not drift onto, <u>tidal land</u> or wetlands, or within <u>waterways</u>. Editor's note: Refer to the <i>Fish salvage guidelines</i>, Department of Primary Industries and Fisheries, 2004 for guidance on how to comply with the acceptable outcomes.</p>
<p>PO7 Development resulting in drainage or disturbance of acid sulfate soil is managed to prevent impacts on <u>fisheries resources</u> and <u>fish habitats</u>.</p>	<p>AO7.1 Run-off and leachate from disturbed or oxidised acid sulfate soils is contained and treated, and not released to a <u>waterway</u> or other <u>fish habitat</u>. Editor's note: Management of acid sulfate soil is consistent with the current <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>
<p>PO8 Development of, or adjacent to, <u>fish habitats</u> avoids the unnecessary loss, degradation or fragmentation of <u>fish habitats</u> and their values and the loss of <u>fish</u> movement. Editor's note: For more information, refer to relevant <u>fish habitat</u> management operational policies and <u>fish habitat</u> guidelines:</p> <ol style="list-style-type: none"> (1) <i>Management and protection of marine plants and other tidal fish habitats (FHMOP 001)</i>, Department of Primary Industries and Fisheries, 2007 (2) <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007 (3) <i>Dredging, extraction and spoil disposal activities (FHMOP 004)</i>, Department of 	<p>AO8.1 The development does not directly impact <u>fish habitats</u> and is located:</p> <ol style="list-style-type: none"> (1) above the <u>highest astronomical tide</u> for tidal <u>fish habitat</u> or (2) above bankful width for non-tidal <u>fish habitats</u> (freshwater). <p>OR</p> <p>AO8.2 Where impacts on <u>fish habitats</u> cannot be avoided, development meets the following criteria:</p> <ol style="list-style-type: none"> (1) the location, design and work methods will result in the smallest impact possible to <u>fish habitats</u> (2) development does not increase the risk of transfer of, or impacts from, pest <u>fish</u> and other relevant pest species (3) tidal and freshwater inundation and drainage patterns, extent and timing are maintained such that ecological processes continue (4) works or development will not restrict <u>fish</u> access to <u>fish habitats</u> or

Performance outcomes	Acceptable outcomes
<p>Primary Industries, 1998</p> <p>(4) <i>Departmental procedures for permit applications assessment and approvals for insect pest control in wetlands (FHMOP 003)</i>, Department of Primary Industries, 1996</p> <p>(5) <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006</p>	<p><u>fisheries resources</u></p> <p>(5) tidal or freshwater <u>fish habitats</u> will not be substituted for another type of habitat, for example, creation of mangrove communities from other tidal <u>fish habitats</u></p> <p>(6) works are undertaken to avoid both seagrass flowering periods and <u>fish</u> spawning and migration periods</p> <p>(7) impacts are mitigated where possible.</p> <p>(8)</p>
Public infrastructure to facilitate fishing	
<p>PO9 Development provides public use and access to <u>fisheries resources</u>.</p>	<p>AO9.1 Structures over <u>tidal land</u> are located over areas naturally devoid of <u>marine plants</u>, or areas that have undergone existing disturbance or degradation.</p> <p>AND</p> <p>AO9.2 Development is public infrastructure to facilitate <u>fishing</u> has a direct link to the activity of <u>fishing</u>, and:</p> <p>(1) is a public jetty, pontoon, boat ramp or <u>fishing</u> platform</p> <p>(2) the proposed location has been identified as the most suitable through a strategic planning approach</p> <p>(3) there is an existing community requirement for the structure</p> <p>(4) the development will result in the smallest impact possible to <u>fish habitats</u>.</p> <p>AND</p> <p>AO9.3 Avoidance of disturbance, whether that disturbance is permanent or temporary, for access paths, tracks or dredging navigable access.</p> <p>AND</p> <p>AO9.4 If development results in <u>fish habitat</u> disturbance, there is an overriding requirement for the development to be located within the <u>tidal land</u>, wetlands or a <u>waterway</u>.</p> <p>AND</p> <p>AO9.5 The long-term operability and impact of the use of the development will not require additional new development and associated impacts will not result in the need for dredge navigation access to the proposed jetty in the future.</p>
Public infrastructure (linear and nodal)	
<p>PO10 Development provides a public benefit.</p>	<p>AO10.1 The applicant is an <u>entity</u> or has the authority to act on behalf of an <u>entity</u>.</p>
<p>PO11 There is an overriding requirement for the development to be located on <u>tidal land</u> or other <u>fish habitats</u>.</p>	<p>AO11.1 There is no other viable alternative route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>AND</p> <p>AO11.2 The development has a functional requirement to be located on <u>tidal land</u>, within a <u>waterway</u> or over <u>fish habitats</u>.</p>

Performance outcomes	Acceptable outcomes
Public infrastructure – waterway crossings	
PO12 Development maintains existing tidal inundation and drainage patterns and extent.	<p>AO12.1 Bridge crossings are designed with abutments above the <u>highest astronomical tide</u>.</p> <p>AND</p> <p>AO12.2 Culvert crossing are designed with the size and number of culverts such that it is the entire width of the <u>waterway</u>, the obvert being above the <u>highest astronomical tide</u> and the invert being equal to natural bed level, or a maximum of 300 millimetres below natural bed level.</p> <p>AND</p> <p>AO12.3 Development is a bed level crossing of 15 metres in width or less.</p>
PO13 Development provides for <u>fish</u> passage.	AO13.1 No acceptable outcome is prescribed.
Public infrastructure – pipeline or subterranean infrastructure	
PO14 Public infrastructure that is a pipeline or subterranean infrastructure maintains existing tidal hydrology, including inundation and drainage patterns and extent.	<p>AO14.1 The public infrastructure will be placed below the existing natural substrate surface level, and natural substrate and surface levels will be reinstated.</p> <p>AND</p> <p>AO14.2 The public infrastructure will not cause <u>waterway</u> bed or bank scour or <u>waterway</u> bed or bank erosion.</p>
Public infrastructure – dredging or extracting sediment	
PO15 Works for public infrastructure that are dredging or extracting material are undertaken so as to avoid impacts on <u>marine plants</u> .	<p>AO15.1 Works for public infrastructure are for capital dredging, are proposed by a public <u>entity</u> and are for a demonstrated need.</p> <p>AND</p> <p>AO15.2 Works are maintenance dredging consistent with a previously lawfully dredged area, or otherwise approved profiles for navigational purposes.</p> <p>AND</p> <p>AO15.3 Works are undertaken to avoid both seagrass flowering periods and <u>fish</u> spawning and migration periods.</p>
PO16 Disposal of dredge spoil is undertaken in a manner that avoids impacts on <u>marine plants</u> .	<p>AO16.1 Spoil disposal will occur at a designated, approved spoil disposal site.</p> <p>AND</p> <p>AO16.2 Spoil disposal occurs as part of a beach replenishment program supported by a strategic planning process.</p> <p>AO16.3 Dredge spoil is not disposed of on <u>tidal land</u>.</p>
Private infrastructure – dredging or extracting sediment	
PO17 Works for dredging or extracting sediment for private infrastructure are only undertaken where there is an overriding public need exists for the work.	<p>AO17.1 Works for private infrastructure will provide public or community benefit.</p> <p>AND</p> <p>AO17.2 The works are a component of private development works and there is an overriding public need for the dredging component of the development to occur.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO17.3 The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impact on <u>fish habitats</u> have been properly considered.</p> <p>Editor's note:</p> <ol style="list-style-type: none"> (1) For example, private marina facilities or development that is open to the general public and facilitates public access for <u>fishing</u> purposes and future maintenance dredging is within the approved footprint of the facility, and is the least impact option based on <u>fisheries resources</u> and <u>fish habitats</u>. (2) Dredging for access to private structures is not supported.
Public infrastructure – erosion control and beach replenishment	
<p>PO18 Public infrastructure for erosion and beach replenishment works is provided to address existing significant and imminent erosion, maintain natural shoreline and <u>foreshore</u> processes and existing <u>fish habitat</u> values.</p> <p>Editor's note: Further detail on erosion control is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p>	<p>AO18.1 Public infrastructure for erosion and beach control replenishment provides an erosion buffer zone and facilitates managed retreat.</p> <p>Editor's note: Further guidance on erosion control is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p> <p>AND</p> <p>AO18.2 The cause of shoreline and <u>foreshore</u> erosion is identified and treated.</p> <p>AND</p> <p>AO18.3 Development provides a riparian buffer zone with a minimum width of:</p> <ol style="list-style-type: none"> (1) for tidal <u>fish habitats</u>— <ol style="list-style-type: none"> (a) 100 metres above the <u>highest astronomical tide</u> outside an urban area, or (b) 50 metres above the <u>highest astronomical tide</u> within an urban area (2) for non-tidal <u>fish habitats</u>— <ol style="list-style-type: none"> (a) 50 metres above bankful width outside an urban area or (b) 25 metres above bankful width an urban area. <p>AND</p> <p>AO18.4 An erosion control structure is provided to address a short-term significant erosion risk that will result in the loss of buildings, structures or infrastructure that are not expendable or relocatable.</p> <p>AND</p> <p>AO18.5 Erosion control works:</p> <ol style="list-style-type: none"> (1) minimise disturbance to <u>fish habitats</u> and <u>fisheries resources</u> (2) result in no further loss of <u>fish habitats</u> (for example, through reclamation of <u>tidal land</u>) (3) maximise <u>fish habitat</u> enhancement or creation through <u>fish</u> friendly design (4) minimise disruption to community use of the area. <p>AND</p> <p>AO18.6 Erosion control structures:</p> <ol style="list-style-type: none"> (1) are located where the applicant can demonstrate a level of rights or interest

Performance outcomes	Acceptable outcomes
	<p>(2) are located parallel to the shoreline and as far landward as possible. Minor regularisation may be supported</p> <p>(3) are located landward of, or adjoining, the existing <u>land</u> profile</p> <p>(4) incorporate <u>fish</u>-friendly design.</p> <p>AND</p> <p>AO18.7 Development does not involve the placement of sand on soft-sediment shorelines to create an artificial beach unless the site has a demonstrable history of sand placement for public recreation purposes.</p>
<p>PO19 Erosion control and beach replenishment that requires filling of <u>tidal land</u> is avoided where possible, and impact on <u>tidal land</u> is minimised.</p>	<p>AO19.1 Minor filling is required to regularise a shoreline or <u>foreshore</u> as part of erosion control activities.</p> <p>AND</p> <p>AO19.2 Filling of <u>tidal land</u> is for the creation of dune or beach above <u>highest astronomical tide</u> and the filling:</p> <p>(1) is part of an erosion control strategy, or</p> <p>(2) does not create terrestrial <u>land</u> for the placement of structures or for terrestrial activities, or</p> <p>(3) is an integral part of the erosion control design, or</p> <p>(4) will minimise replenishment frequency or impact to <u>fish habitats</u>, or</p> <p>(5) will remove the need for other erosion control works that will have a greater impact on <u>fish habitats</u>.</p> <p>AND</p> <p>AO19.3 Placement of sand is required for the effective functioning of an erosion control structure.</p>
Private development work	
<p>PO20 Maritime infrastructure providing for private access avoids impacts on <u>marine plants</u> and <u>fish habitat</u>.</p>	<p>AO20.1 Structures over <u>tidal land</u> are located over areas that are naturally devoid of <u>marine plants</u>.</p> <p>OR</p> <p>AO20.2 Development work associated with a private jetty or pontoon has a maximum <u>marine plant</u> disturbance area of 30 square metres. The <u>marine plant</u> disturbance area has a maximum width of two metres along the shoreline (<u>highest astronomical tide</u> height) and a maximum length of 15 metres from the shoreline (perpendicular).</p> <p>OR</p> <p>AO20.3 Private development work that is a boat ramp has a maximum <u>marine plant</u> disturbance area of 45 square metres. The area below the <u>highest astronomical tide</u> is not to exceed 45 square metres (that is, no other <u>fish habitats</u> are to be disturbed or modified).</p> <p>AND</p> <p>AO20.4 The long-term operability and impact of the use of the development will not require additional new development and associated impacts, for example, a proposed private jetty will not result in the need to dredge navigation access to the proposed jetty in the future.</p> <p>AND</p> <p>AO20.5 Only one maritime access structure will adjoin the property.</p>

Performance outcomes	Acceptable outcomes
Temporary development	
<p>PO21 The design of the temporary development results in the smallest possible disturbance to <u>fish habitat</u> and <u>fisheries resources</u>.</p>	<p>AO21.1 Temporary development:</p> <ol style="list-style-type: none"> (1) will have lesser impact on the <u>tidal lands</u> or <u>fish habitats</u> than all other reasonable options (2) is designed to minimise impacts to <u>fish habitat</u> and fisheries productivity (3) will be in place or undertaken for the shortest possible time, having regard to the nature of the development (4) is designed to avoid filling or reclamation of <u>tidal lands</u> (5) can and will be completely removed from <u>tidal land</u> and <u>fish habitats</u> (6) will be carried out during a time that avoids or minimises conflict with known <u>fish</u> migration or spawning periods. <p>AND</p> <p>AO21.2 Disturbed <u>land</u> profiles will be restored to allow original inundation and drainage patterns.</p> <p>AND</p> <p>AO21.3 The development provides for regeneration or restoration of <u>fish habitat</u> and <u>fisheries resource</u> values.</p> <p>AND</p> <p>AO21.4 The development will not result in the permanent substitution of <u>fish habitat</u>.</p> <p>AND</p> <p>AO21.5 The development provides for a post-works monitoring and maintenance program.</p>
Public health or safety	
<p>PO22 Development that is ensuring public health or safety is undertaken in a manner that minimises impacts on <u>fish habitat</u> and <u>fisheries resources</u>.</p> <p>Note: The following are not considered public health or safety issues:</p> <ol style="list-style-type: none"> (1) management of ‘nuisance’ issues (for example, biting midge control, or the management of odours from decaying vegetation) (2) <u>foreshore</u> erosion, unless its control is required as a short-term emergency response to a catastrophic event that presents an immediate threat to public safety through undermining of dwellings or infrastructure. In such cases, the emergency provisions of the <i>Sustainable Planning Act 2009</i> may apply. Where possible, erosion management measures should be developed prior to public safety becoming an issue. (3) capital dredging for navigation. 	<p>AO22.1 Development for a public health issue:</p> <ol style="list-style-type: none"> (1) is endorsed in writing by Queensland Health or the relevant local government (2) is necessary, as all alternative options that do not require removal or disturbance of <u>marine plants</u> have been considered and are not viable or achievable in the available timeframes for an adequate response to the public health issue (3) if the development is for a long-term response with permanent or ongoing impacts to <u>fish habitats</u> – ensures an agreed program to identify and implement measures to reduce the impacts of the response over time on the area. <p>AND</p> <p>AO22.2 Development for a public safety purpose has no viable alternative options and is for:</p> <ol style="list-style-type: none"> (1) signage or aids to warn the public of a safety hazard (for example, within a <u>waterway</u> to warn of submerged rocks, crocodiles, marine stingers), or (2) preventing an impending public safety issue (for example, beach cleaning to remove dangerous items such as syringes), or (3) the mitigation of a hazard to public safety that has resulted from a specific unforeseen event (for example, a fallen tree that is a danger to

Performance outcomes	Acceptable outcomes
	<p>safe navigation), or</p> <p>(4) placement of a cyclone mooring identified under a cyclone contingency plan by the harbour master or controlling port authority or corporation, and is located in accordance with the plan.</p>
Restoration works	
<p>PO23 Restoration works to reinstate <u>fish habitats</u>, fisheries productivity and natural ecological processes to a pre-existing natural condition are undertaken in a manner that mitigates impacts on <u>marine plants</u> and <u>fish habitats</u>.</p> <p>Editor's note: For further guidance refer to <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i>, Department of Primary Industries, 1998. Restoration works authorised through an endorsed restoration plan under the code for self- assessable development <i>MPO6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Employment, Economic Development and Innovation, 2011 do not require a development permit.</p>	<p>AO23.1 Works will not result in additional <u>fish habitat</u> disturbance, removal or degradation.</p> <p>AND</p> <p>AO23.2 <u>Land</u> profiles are restored to original inundation and drainage patterns.</p> <p>AND</p> <p>AO23.3 Works are undertaken to encourage <u>fish habitats</u> and <u>fisheries resource</u> values to naturally regenerate.</p> <p>AND</p> <p>AO23.4 <u>Fish habitat</u> restoration work will not result in the substitution of <u>fish habitats</u>.</p> <p>AND</p> <p>AO23.5 Physical restoration of <u>fish habitats</u> (for example, replanting) is undertaken where natural regeneration is, or is likely to be, unsuccessful.</p> <p>AND</p> <p>AO23.6 Permanent structures (for example, boardwalk) to facilitate restoration works:</p> <ol style="list-style-type: none"> (1) provide a means of managing an identified impact or degrading process (2) retain natural ecological processes will be retained (3) are the least impact alternative available. <p>AND</p> <p>AO23.7 Works include a post-works monitoring and maintenance program, appropriate for the scale of the restoration works.</p> <p>AND</p> <p>AO23.8 <u>Marine plants</u> used in restoration works are collected within a 100 kilometre radius of the site to maintain the genetic integrity of the restoration site and local <u>marine plant</u> communities.</p>
Works for aesthetic purposes or to provide for views	
<p>PO24 Removal, trimming or damage to <u>marine plants</u> to provide views or for aesthetic purposes is undertaken in a manner that maintains the integrity of <u>fish habitat</u>.</p>	<p>AO24.1 Works are undertaken in accordance with a mangrove management strategy endorsed by Fisheries Queensland.</p>
Offsets	
<p>PO25 Impacts of development on <u>fish habitats</u> or <u>fisheries resources</u> that cannot be avoided are offset in accordance with the <i>Marine fish habitat offset policy (FHMOP 005.2)</i>, Department of Agriculture, Fisheries and Forestry and the <i>Queensland</i></p>	<p>No acceptable solution is prescribed.</p>

Performance outcomes	Acceptable outcomes
<p><i>Government environmental offsets policy</i>, Environmental Protection Agency, 2008 unless the development is private infrastructure works impacting less than 17 square metres or public infrastructure works impacting less than 25 square metres of <u>fish habitat</u>.</p> <p>Editor's note: A marine <u>fish habitat</u> offset to counterbalance unavoidable impacts of development on <u>fish habitats</u> or <u>fisheries resources</u> may include, for example:</p> <ol style="list-style-type: none"> (1) works or activities to enhance or rehabilitate a <u>fish habitat</u> (2) the exchange of another <u>fish habitat</u> for a <u>fish habitat</u> affected by the development or (3) a contribution to <u>fish habitat</u> research. 	
Development within a wild river area	
PO26 Development minimises clearing of <u>marine plants</u>	AO26.1 Clearing of <u>marine plants</u> is limited to the extent of the works plus the prescribed area around the development to allow for maintenance.
PO27 There is nil net loss in <u>marine plants</u> as a result of development.	AO27.1 Any <u>marine plant</u> damaged during construction is replaced at the completion of the development with the same species of plant in the disturbed area outside of the footprint of the development.

5.4 Reference documents

Guidelines

Department of Primary Industries 1998 [Restoration of fish habitats: Fisheries guidelines for marine areas FHG 002](#)

Department of Primary Industries 2000 [Fisheries guidelines for fish habitat buffer zones FHG 003](#)

Department of Primary Industries and Fisheries 2006 [Fisheries guidelines for fish-friendly structures FHG 006](#)

Department of Primary Industries and Fisheries 2004 [Fish salvage guidelines](#)

Department of Primary Industries and Fisheries 2005 [The lawful use of physical, pesticide and biological controls in a declared fish habitat area \(FHACoPo1\)](#)

Local Government Association of Queensland 2012 [Mosquito management code of practice for Queensland](#).

Policies

Department of Primary Industries and Fisheries 2007 [Management and protection of marine plants and other tidal fish habitats \(FHMOP 001\)](#)

Department of Agriculture, Fisheries and Forestry [Management of declared fish habitat areas \(FHMOP 002\) – responsibility of NPRSR](#)

- Department of Agriculture, Fisheries and Forestry [Departmental procedures for permit applications assessment and approvals for insect pest control in coastal wetlands \(FHMOP 003\)](#)
- Department of Primary Industries 1998 [Dredging, extraction and spoil disposal activities: Departmental procedures for provision of fisheries comments \(FHMOP 004\)](#)
- Department of Agriculture, Fisheries and Forestry [Marine fish habitat offset policy \(FHMOP 005.2\)](#)
- Department of Primary Industries [Fish habitat area declaration and review: Consultation procedures \(FHMOP 006\)](#)
- Department of Primary Industries 2003 [Fish habitat area selection and assessment \(FHMOP007\)](#)
- Department of Agriculture, Fisheries and Forestry 2013 [Waterway barrier works approvals and fishway assessments: Departmental procedures \(FHMOP 008\)](#)
- Department of Primary Industries 2002 [Restoration notices for fish habitats – formulation and implementation: Departmental procedures \(FHMOP 009\)](#)
- Department of Primary Industries and Fisheries 2007 [Tidal fish habitats, erosion control and beach replenishment \(FHMOP 010\)](#)
- Department of Primary Industries and Fisheries 2008 [Oyster industry management plan for Moreton Bay Marine Park](#)
- Australian Government, Ministerial Council on Forestry, Fisheries and Aquaculture 1999 [National policy for the translocation of live aquatic organisms](#)

Self-assessable codes

- Department of Primary Industries and Fisheries 2005 [The lawful use of physical, pesticide and biological controls in a declared fish habitat area \(FHACoP01\)](#)
- Department of Employment, Economic Development and Innovation 2011 [Removal of dead marine wood from unallocated State land for trade or commerce \(MP01\)](#)
- Department of Employment, Economic Development and Innovation 2010 [Maintenance works on existing lawful structures \(other than powerlines and on-farm drains\) in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MP02\)](#)
- Department of Employment, Economic Development and Innovation 2011 [On-farm drain maintenance works involving the removal, destruction or damage of marine plants \(MP03\)](#)
- Department of Agriculture, Fisheries and Forestry 2012 [Maintenance works on powerlines and associated infrastructure in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MP04\)](#)
- Department of Employment, Economic Development and Innovation 2011 [Works for educational, research or monitoring purposes in a declared fish habitat area or involving removal, destruction or damage of marine plants \(MP05\)](#)
- Department of Agriculture, Fisheries and Forestry 2013 [Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MP06\)](#)

Department of Employment, Economic Development and Innovation 2011 [Minor waterway barrier works](#) (WWBW01)

Department of Employment, Economic Development and Innovation 2010 [Temporary waterway barrier works](#) (WWBW02)

Department of Employment, Economic Development and Innovation 2012 [Regularly constructed temporary waterway barrier works \(lower Burdekin\)](#) (WWBW03)

Other references

Department of Natural Resources and Mines 2002 [Queensland acid sulfate soil technical manual: Soil management guidelines](#)

International Erosion Control Association Australasia 2008 [Best practice erosion and sediment control](#) document

Department of Environment and Resource Management 2011 [Queensland wetland buffer planning guideline](#)

Environmental Protection Agency 2008 [Queensland Government environmental offsets policy](#) available from the Department of Environment and Heritage Protection [library catalogue](#)

[Fish habitat area summaries](#) available from the Department of National Parks, Recreation, Sport and Racing website

International Ecohydraulics Symposium 2012 [From Sea to Source: International guidance for the restoration of fish migration highways](#)

Editor's note: The From Sea to Source document is 36mb

Department of Fisheries and Forestry 2013 [Guideline on fisheries adjustment as a result of development](#)

Editor's note: The Guideline on fisheries adjustment is available on request from the [Department of Fisheries and Forestry](#)

5.5 Glossary of terms

Aquaculture see the *Fisheries Act 1994*

Editor's note: means the cultivation of live [fisheries resources](#) for sale other than in circumstances prescribed under a Regulation

Disease see the *Fisheries Act 1994* Section 94

Editor's note: [Disease](#) means:

- (1) a [disease](#), parasite, pest, plant or other thing (the [disease](#)) that has, or may have, the effect (directly or indirectly) of killing or causing illness in [fisheries resources](#), or in humans or animals that eat [fisheries resources](#) infected with or containing the [disease](#)
- (2) a chemical or antibiotic residue, or
- (3) a [fish](#) or plant species that may compete against [fisheries resources](#) or other [fisheries resources](#) to the detriment of the [fisheries resources](#) or other [fisheries resources](#).

Entity see the *Fisheries Act 1994*, Schedule

Editor's note: [Entity](#) includes an [entity](#) established under the law of the Commonwealth or another state.

Fish see the *Fisheries Act 1994* Section 5

Editor's note: [Fish](#) —

- (1) means an animal (whether living or dead) of a species that throughout its life cycle usually lives:
 - (a) in water (whether freshwater or saltwater)
 - (b) in or on [foreshores](#) or

- (c) in or on land under water
- (2) includes:
 - (a) prawns, crayfish, rock lobsters, crabs and other crustaceans
 - (b) scallops, oysters, pearl oysters and other molluscs
 - (c) sponges, annelid worms, bêche-de-mer and other holothurians means the cultivation of live fisheries resources for sale other than in circumstances prescribed under a Regulation and
 - (d) trochus and green snails
- (3) does not include:
 - (a) crocodiles
 - (b) protected animals under the *Nature Conservation Act 1992*
 - (c) pests under the *Pest Management Act 2001* or
 - (d) animals prescribed under a Regulation not to be fish
- (4) also includes:
 - (a) the spat, spawn and eggs of fish
 - (b) any part of fish or of spat, spawn or eggs of fish
 - (c) treated fish, including treated spat, spawn and eggs of fish
 - (d) coral, coral limestone, shell grit or star sand
 - (e) freshwater or saltwater products declared under a Regulation to be fish.

Fisheries resources see the *Fisheries Act 1994*.

Editor's note: Fisheries resources includes fish and marine plants.

Fishery see the *Fisheries Act 1994*, section 7

Editor's note: Fishery means activities by way of fishing, for example, activities specified by reference to all or any of the following:

- (1) a species of fish
- (2) a type of fish by reference to sex, size or age or another characteristic
- (3) an area
- (4) a way of fishing
- (5) a type of boat
- (6) a class of person
- (7) the purpose of an activity
- (8) the effect of the activity on a fish habitat, whether or not the activity involves fishing
- (9) anything else prescribed under a Regulation.

Fish habitat see the *Fisheries Act 1994*

Editor's note: Fish habitat includes land, waters and plants associated with the life cycle of fish, and includes land and waters not presently occupied by fisheries resources.

Fishing see the *Fisheries Act 1994*.

Editor's note: Fishing includes—

- (1) searching for, or taking, fish
- (2) attempting to search for, or take, fish
- (3) engaging in other activities that can reasonably be expected to result in the locating, or taking, of fish
- (4) landing fish (from a boat or in another way), bringing fish ashore or transshipping fish.

Fish way see the *Fisheries Act 1994*

Editor's note: Fish way means a fish ladder or another structure or device by which fish can pass through, by or over waterway barrier works.

Foreshore see the *Fisheries Act 1994*

Editor's note: Foreshore means parts of the banks, bed, reefs, shoals, shore and other land between high water and low water.

Highest astronomical tide means the highest level of the tides that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.

Land includes foreshores and tidal and non-tidal land.

Marine plant see the *Fisheries Act 1994*, section 8

Editor's note: Marine plant includes the following:

- (1) a plant (a tidal plant) that usually grows on, or adjacent to, tidal land, whether it is living, dead, standing or fallen
- (2) material of a tidal plant, or other plant material on tidal land
- (3) a plant, or material of a plant, prescribed under a Regulation or management plan to be a marine plant.

A marine plant does not include a plant that is a declared pest under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Non-endemic fish means fish originating from anywhere outside the catchment under consideration.

Resource allocation authority—means a resource allocation authority issued, and in force, under part 5, division 3, subdivision 2A of the *Fisheries Act 1994*.

Tidal land see the *Fisheries Act 1994*

Editor's note: Tidal land includes reefs, shoals and other land permanently or periodically submerged by waters subject to tidal influence.

Translocation means the movement of live aquatic organisms (including all stages of the organism's life cycle and any derived viable genetic material):

- (1) beyond its accepted distribution
- (2) to areas which contain genetically distinct populations, or
- (3) to areas with superior parasite or disease status.

Waterway see the *Fisheries Act 1994*

Editor's note: Waterway includes a river, creek, stream, watercourse or inlet of the sea.

Waterway barrier works see the *Fisheries Act 1994*, Schedule

Editor's note: Waterway barrier works means a dam, weir or other barrier across a waterway if the barrier limits fish stock access and movement along a waterway.

Abbreviations

DA – Development application

EFM – Environmentally friendly mooring

GIS – Geographic information system

SEMP – Shoreline Erosion Management Plan

Module 6. Strategic cropping land

6.1 Particular development on strategic cropping land state code

6.1.1 Purpose

This code forms part of the land use planning and development assessment framework for protecting strategic cropping land.

This code seeks to protect strategic cropping land from development that leads to permanent impacts or diminished productivity by ensuring that:

- (1) strategic cropping land is managed to preserve the productive capacity of the land for future generations
- (2) to the extent that the strategic cropping land is in a protection area and will be permanently impacted on by a development with a footprint greater than 3000 square metres, the development does not proceed except in exceptional circumstances, and where the development is an exceptional circumstance, mitigation is provided for the permanently impacted land
- (3) to the extent that the strategic cropping land is in a management area and will be permanently impacted upon by a development with a footprint greater than 3000 square metres, an overriding need must be demonstrated and mitigation is provided for the impacted land.

In this code, a reference to strategic cropping land includes potential strategic cropping land under the *Strategic Cropping Land Act 2011*.

6.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Building work	Table 1.1.1
Material change of use	Temporary impact—Table 6.1.1 Permanent impact—Table 6.1.2
Reconfiguring a lot	Table 6.1.3

Table 6.1.1: Material change of use with temporary impact

Performance outcomes	Acceptable outcomes
PO1 The <u>temporary impact</u> on <u>strategic cropping land</u> from the development must be: <ol style="list-style-type: none"> (1) avoided to the greatest extent practicable (2) minimised wherever possible. 	AO1.1 The <u>temporary impact</u> is: <ol style="list-style-type: none"> (1) not located on <u>strategic cropping land</u>, or (2) co-located with, or adjacent to, existing infrastructure.
PO2 <u>Strategic cropping land</u> impacted by the development will be fully restored to its <u>pre-development condition</u> * and all impediments to	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p><u>cropping</u> removed within 50 years of the development commencing.</p> <p>*Editor's note: <u>Security</u> may be required as a condition of development approval to ensure that the <u>strategic cropping land</u> is restored to its <u>pre-development condition</u>.</p> <p>Editor's note: This performance outcome can be addressed by:</p> <ol style="list-style-type: none"> (1) providing evidence of successful restoration of <u>strategic cropping land</u> in a similar circumstance (2) providing a report that details: <ol style="list-style-type: none"> (a) the <u>pre-development condition</u> of the <u>strategic cropping land</u> which is to be impacted through: <ul style="list-style-type: none"> • documenting slope, rockiness, soil depth, drainage, soil pH, electrical conductivity/chloride content and soil water storage utilising the assessment methodology contained in Schedule 1 of the <i>Strategic Cropping Land Act 2011</i> • providing a detailed description of the <u>landform</u> (b) how the development is proposed to be carried out (c) how the soil impacted by the development will be restored to its <u>pre-development condition</u>* (d) the date the development will cease and be removed (e) the time frames in which restoration will be completed (f) a monitoring regime, including monitoring sites (g) cost of restoring <u>strategic cropping land</u> to its <u>pre-development condition</u>* 	

Table 6.1.2: Material change of use with permanent impact

Performance outcomes	Acceptable outcomes
Development includes a footprint of 3000 square metres or less and will result in a permanent impact on strategic cropping land in the management area or protection area	
<p>PO1 The <u>permanent impact</u> on <u>strategic cropping land</u> from the development with a footprint of 3000 square metres or less must be:</p> <ol style="list-style-type: none"> (1) avoided to the greatest extent practicable (2) minimised wherever possible. 	<p>AO1.1 The <u>permanent impact</u> is:</p> <ol style="list-style-type: none"> (1) not located on <u>strategic cropping land</u>, or (2) co-located with, or adjacent to, existing infrastructure.
Development includes a footprint of more than 3000 square metres and will result in a permanent impact on strategic cropping land in the management area	
<p>PO2 The development is for an <u>overriding need</u> and:</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>(1) provides a public benefit</p> <p>(2) no other site is suitable for the particular purpose.</p>	
<p>PO3 The <u>permanent impact</u> on <u>strategic cropping land</u> from the development must be:</p> <p>(1) avoided to the greatest extent practicable</p> <p>(2) minimised wherever possible.</p>	<p>AO3.1 The <u>permanent impact</u> is:</p> <p>(1) not located on <u>strategic cropping land</u>, or</p> <p>(2) co-located with, or adjacent to existing infrastructure.</p>
<p>PO4 The area of permanently impacted land is identified and a mitigation* value is determined.</p> <p>* Editor's note: Mitigation in accordance with Chapter 5 of the <i>Strategic Cropping Land Act 2011</i> must have taken place prior to the development being carried out.</p> <p>Editor's note: This performance outcome can be addressed by providing a plan of the <u>permanent impact</u> and the area (size of the <u>permanent impact</u>).</p>	<p>No acceptable outcome is prescribed.</p>
<p>Development includes a footprint of more than 3000 square metres and will result in a permanent impact on strategic cropping land in the protection area</p>	
<p>PO5 The development is in <u>exceptional circumstances</u>*:</p> <p>(1) prescribed by the Strategic Cropping Regulation 2011, or</p> <p>(2) decided in accordance with the <i>Strategic Cropping Land Act 2011</i>.</p> <p>* Editor's note: <u>Exceptional circumstances</u> is an assessment process under the <i>Strategic Cropping Land Act 2011</i>.</p>	<p>No acceptable outcome is prescribed.</p>
<p>PO6 The <u>permanent impact</u> on <u>strategic cropping land</u> in the <u>protection area</u> from the development with a footprint of more than 3000 square metres must be:</p> <p>(1) avoided to the greatest extent practicable</p> <p>(2) minimised wherever possible.</p>	<p>AO6.1 The <u>permanent impact</u> is:</p> <p>(1) not located on <u>strategic cropping land</u>, or</p> <p>(2) co-located with or adjacent to existing infrastructure.</p>
<p>PO7 The area of permanently impacted land is identified and a mitigation* value is determined.</p> <p>* Editor's note: Mitigation in accordance with Chapter 5 of the <i>Strategic Cropping Land Act 2011</i> must have taken place prior to the development being carried out.</p> <p>Editor's note: This performance outcome can be addressed by providing a plan of the <u>permanent impact</u> and the area (size of the <u>permanent impact</u>).</p>	<p>No acceptable outcome is prescribed.</p>

Table 6.1.3: Reconfiguring a lot

Performance outcomes	Acceptable outcomes
<p>PO1 The area available for <u>cropping</u> and the area of <u>strategic cropping land</u> which has the opportunity for <u>cropping</u>, is maintained or enhanced.</p>	<p>AO1.1 No additional <u>domestic housing activity</u> will result from the development unless they are located in an area not <u>strategic cropping land</u> or an area that is not an area <u>available for cropping</u>.</p> <p>AND</p> <p>AO1.2 Lot boundaries are located in an area that is not <u>strategic cropping land</u> or is not <u>available for cropping</u>.</p>

6.2 Reference documents

Department of Natural Resources and Mines 2012 [Strategic cropping land: Development exemptions under the Sustainable Planning Act 2009](#) fact sheet

National Committee on Soil and Terrain 2009 [Australian soil and land survey field handbook, Third Edition](#)

6.3 Glossary

Area available for cropping means an area of strategic cropping land that is ready for use for cropping and for which there are no legal or physical impediments to cropping.

Example of area available for cropping:

- (1) an area where there is a current crop

Examples of areas that are not areas available for cropping include areas:

- (2) permanently impacted by infrastructure, or
- (3) containing a river, or
- (4) containing a rock outcrop, or
- (5) containing a dam or wetland, or
- (6) temporarily impacted by infrastructure, or
- (7) containing remnant or regrowth vegetation, or
- (8) reasonably associated with a domestic housing activity.

Cropping see the *Strategic Cropping Land Act 2011*, schedule 2.

Editor's note: Cropping includes the following:

- (1) the yield of any form of cultivated crop for any purpose, including, for example, food, fibre, fodder, or medicinal purposes
- (2) the growing of trees to produce, or as a component for, food, fibre, or a medicinal product
- (3) harvesting a timber plantation.

Domestic housing activity means the construction or use of a single residence on a lot and any reasonably associated building or structure.

Examples of a building or structure that could be reasonably associated with a single residence:

- (1) caretakers' accommodation
- (2) granny flat
- (3) building or structure used for a home business.

Exceptional circumstances for development see the *Strategic Cropping Land Act 2011*, section 15.

Editor's note: Development is in exceptional circumstances if it is—

- (1) of a type prescribed under section 120(1) of the *Strategic Cropping Land Act 2011*; or
- (2) decided to be so under section 133(2) of the *Strategic Cropping Land Act 2011*.

Footprint for a provision about development, means the portion of the relevant lot covered by:

- (1) buildings or structures measured to their outermost projection
- (2) any of the following relating to the buildings or structures or the development:
 - (h) asphalt, concrete or another hard built surface
 - (i) a car park
 - (j) a road or access track
 - (k) an area used for vehicle movement or parking
 - (l) an area used or that may be used for storage.

Landform as described consistent with the *Australian soil and land survey field handbook*, Third Edition, CSIRO, 2000.

Management area see the *Strategic Cropping Land Act 2011*, section 29.

Editor's note: A management area is what is left of the combined area of all zones, after taking from the combined area all protection areas. A zone is:

- (1) generally—an area shown as a zone on the zone map
- (2) for a provision about particular land—the zone the land is in.

The zone map is the electronic map called the strategic cropping land zone map held by the Department of Natural Resources and Mines.

Mitigation see the *Strategic Cropping Land Act 2011*, section 138.

Editor's note: Mitigation means that either of the following, or a combination of the following, has taken place for the land's mitigation value:

- (1) a payment to the mitigation fund
- (2) the entering into of a mitigation deed.

Mitigation value see the *Strategic Cropping Land Act 2011*, section 139.

Editor's note: Mitigation measures are the carrying out of activities to address the loss of the productive capacity of identified permanently impacted land.

Overriding need exists for the development where it provides a public benefit and no other site is suitable for the particular purpose.

Permanent impact see the *Strategic Cropping Land Act 2011*, section 14.

Editor's note: Permanent impact includes (among other things):

- (1) a development that impedes (legally or physically) the land from being cropped for 50 years; or
- (2) a development that, because of its carrying out, the land cannot be restored to its pre-development condition; or
- (3) a development that is prescribed in the Strategic Cropping Land Regulation 2011 as an activity having a permanent impact.

Potential strategic cropping land means land in an area shown on the trigger map as being potential strategic cropping land. The trigger map is the electronic map called the trigger map for strategic cropping land in Queensland held by the Department of Natural Resources and Mines.

Pre-development condition see the *Strategic Cropping Land Act 2011* schedule 2.

Editor's note: Pre-development condition means the condition of land before the development started, or if the condition of the land cannot be worked out, a condition consistent with contiguous strategic cropping land for the land.

Protection area see the *Strategic Cropping Land Act 2011*, section 28(2).

Editor's note: Protection area means an area shown as a protection area on the protection area map. The protection area map is the electronic map of that name held by the Department of Natural Resources and Mines.

Strategic cropping land see the *Strategic Cropping Land Act 2011*, section 9.

Editor's note: Strategic cropping land is the land recorded in the decision register as being strategic cropping land. Strategic cropping land means strategic cropping land and potential strategic cropping land.

Temporary impact see the *Strategic Cropping Land Act 2011*, section 14.

Editor's note: Temporary impact means carrying out development on strategic cropping land has a temporary impact on the land if:

- (1) the carrying out does not have a permanent impact on the land under section 14 of the *Strategic Cropping Land Act 2011*; or
- (2) it is development of a type prescribed under a regulation.

Security means the requirement for financial assurance in favour of the State for the applicant's compliance with restoring the land to its pre-development condition. In deciding the amount, the chief executive may consider the cost of restoring the land to that condition. Security includes a bond, deposit of an amount as security, guarantee, indemnity or other surety, insurance, mortgage and undertaking.

Abbreviations

SCL – Strategic cropping land

Module 7. Water resources

7.1 Sustainable management of water resources state code

7.1.1 Purpose

To provide for the sustainable management of water and other resources.

7.1.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 7.1.1

- (2) Development mentioned in column 1 of Table 7.1.1 must comply with the relevant provisions of Table 7.1.2 and Table 7.1.3 mentioned in column 2 of Table 7.1.1.

Table 7.1.1: Development and relevant provisions of the code

Development	Relevant provisions of code
For works that take or interfere with water in a watercourse, lake or spring.	Table 7.1.2 —General: PO1–PO4
For works that take or interfere with artesian and subartesian water.	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Artesian and subartesian water: PO5–PO7
For works that take or interfere with overland flow water in a declared drainage and embankment area.	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10
For works that take or interfere with overland flow water in a wild river floodplain management area or a wild river special floodplain management area.	Table 7.1.2 —General: PO1–PO4 Table 7.1.3 —Interfering with overland flow water in a wild river area: PO1–PO5
For works that take <u>overland flow water</u> in a wild river high-preservation area, or a wild river floodplain management area, or a wild river special floodplain management area.	Table 7.1.2 —General: PO1–PO4 Table 7.1.3 —Taking overland flow water in a wild river area: PO6–PO10
For works that take or interfere with overland flow water where the works are reconfiguring <u>existing works</u> .	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Reconfiguring <u>existing works</u> : PO11–PO14
For works that take or interfere with overland flow water in a limited catchment area identified in a <u>water resource plan</u> .	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Limited catchment area: PO15
For works that take or interfere with overland flow water or contaminated agricultural run-off.	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Contaminated agricultural run-off: PO16
For works that take or interfere with overland flow	Table 7.1.2 —General: PO1–PO4

Development	Relevant provisions of code
water as part of an environmentally relevant activity or under an environmental authority.	Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Environmentally relevant activity: PO17
For works that take or interfere with overland flow water as a result of rehabilitating degraded land.	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Rehabilitating degraded land: PO18–PO19
For works that take or interfere with overland flow water, incidental to capturing coal seam gas water.	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10 Table 7.1.2 —Coal seam gas water: PO20
For works that take with overland flow water, where prescribed in a water resource plan or a regulation under the <i>Water Act 2000</i> .	Table 7.1.2 —General: PO1–PO4 Table 7.1.2 —Overland flow: PO8–PO10

Table 7.1.2: Operational work

Performance outcomes	Acceptable outcomes
General	
PO1 Works do not adversely impact on the natural riverine ecosystem.	No acceptable outcome is prescribed.
PO2 Works do not adversely impact other users' ability to access the resource.	No acceptable outcome is prescribed.
PO3 Works do not adversely impact on the physical integrity of the watercourse.	No acceptable outcome is prescribed.
PO4 All works are located and constructed in a way that is consistent with any of the following plans or declarations to the extent they are relevant to the proposed development: <ol style="list-style-type: none"> (1) a water resource plan (2) a resource operations plan (3) a wild river declaration (4) a moratorium notice issued under the <i>Water Act 2000</i>. Editor's note: Moratorium notices are published on the DNRM website.	No acceptable outcome is prescribed.
Artesian and subartesian water	
PO5 To regulate the impact on the integrity of the artesian or subartesian system, water bores deeper than 6 metres are constructed in accordance with the relevant standard as follows: <ol style="list-style-type: none"> (1) <i>Minimum construction requirements for water bores in Australia</i>, National Water Commission, 2012, or (2) <i>Minimum standards for the construction and reconditioning of water bores that intersect the sediments of artesian basins</i> 	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<i>in Queensland</i> , Department of Natural Resources and Mines, 2012.	
PO6 To regulate the impact on the natural processes of the artesian or subartesian system, works maintain the natural ecosystem of the artesian or subartesian system.	No acceptable outcome is prescribed.
PO7 To regulate the impact on the connectivity of artesian or subartesian waters to surface water, works are to minimise impact on connectivity between subartesian or artesian water and surface water.	No acceptable outcome is prescribed.
Overland flow	
PO8 Development ensures that the natural ecosystem processes and water quality of <u>wetlands of ecological significance</u> is maintained.	A08.1 Works are not located within 200 metres of <u>wetlands of ecological significance</u> .
PO9 Works are located and constructed in a way that minimises adverse impacts on neighbouring properties.	A09.1 Works are contained within the property boundaries of the premises. AND A09.2 At full supply level, the area inundated is contained within the boundaries of the premises. AND A09.3 Any <u>bywash</u> resulting from the works, and any water diverted away from contaminated areas, exits the premises as close as practicable to the same location to which it exited the premises prior to construction of the works.
PO10 Works are constructed and operated in accordance with a <u>certified report</u> .	A010.1 The works are for: (1) taking a maximum of 12 megalitres of <u>contaminated agricultural run-off water</u> , or (2) taking for stock and domestic purposes, or (3) rehabilitating degraded land.
Reconfiguring existing works	
PO11 Construction of new works must not increase overall take or increase: (1) the capacity of the works to store water (2) the rate at which the works take water (3) the average volume of water taken by the works.	No acceptable outcome is prescribed.
PO12 Works must not involve reconfiguration of natural bodies of water or bunded areas.	No acceptable outcome is prescribed.
PO13 Works must not involve reconfiguration of storage capacity of any of the following: (1) <u>lakes</u> that were not used for irrigation or other <u>intensive stocking</u> or production (2) land being used for irrigated or dryland agriculture or areas surrounded by levee	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
banks designed to prevent the land becoming inundated (3) naturally occurring infield storages.	
PO14 New works must be located on the <u>same premises</u> as the <u>existing works</u> .	No acceptable outcome is prescribed.
Limited catchment area	
PO15 In the limited catchment areas, any works for storing water must not: (1) be larger than necessary for storing water other than <u>overland flow water</u> , or (2) be able to take <u>floodwater</u> overflowing from any adjacent <u>watercourse</u> , or (3) involve pumping or diverting the stored water to another storage. Editor's note: Limited catchment areas are listed in Table 7.5.1, column 1.	AO15.1 In the limited catchment areas (defined in Table 7.5.1, column 1), the <u>incidental take of overland flow water</u> is: (1) is located within the sub-catchment/management area listed in Table 7.5.1, column 2 for the relevant limited catchment area (2) is stored in a local catchment area that is less than or equal to the area of the limited catchment area specified in Table 7.5.1, column 3 (3) is less than the limited capacity works volume for the relevant limited catchment area specified in Table 7.5.1, column 4.
Contaminated agricultural run-off	
PO16 If development involves storage capacities greater than 12 megalitres, the storage capacities must: (1) be necessary because there is no alternative way to take the water by reconfiguring <u>existing works</u> (2) be no larger than necessary to contain <u>contaminated agricultural run-off water</u> or tailwater (3) minimise the volume of water that becomes <u>contaminated agricultural run-off water</u> (4) where practicable, allow for water that is not <u>contaminated agricultural run-off water</u> or tailwater to be passed through the works.	AO16.1 Development involves storage capacity is less than 12 megalitres.
Environmentally relevant activity	
PO17 Works capture no more <u>overland flow water</u> than is necessary for the operation of the environmentally relevant activity or environmental authority under the <i>Environmental Protection Act 1994</i> .	No acceptable outcome prescribed.
Rehabilitating degraded land	
PO18 The maximum height or depth of any part of the works is 400 millimetres.	No acceptable outcome prescribed.
PO19 The works are only for rehabilitating degraded land, as certified by: (1) a soil scientist, stating that the area to be	AO19.1 The area inundated as a result of the rehabilitation is 2 hectares or less.

Performance outcomes	Acceptable outcomes
<p>inundated is degraded and the works are an appropriate method for rehabilitation, or</p> <p>(2) a requirement of the <i>Land Act 1994</i>, or</p> <p>(3) the works have been approved for funding under the Primary Industry Productivity Enhancement Scheme.</p>	
Coal seam gas water	
<p>PO20 Any storage for the works must:</p> <p>(1) be no larger than necessary to store <u>coal seam gas water</u> for the <u>beneficial use</u> of the resource under Chapter 8 of the <i>Waste Reduction and Recycling Act 2011</i></p> <p>(2) minimise the volume of <u>overland flow water</u> that is taken</p> <p>(3) not have the ability to take <u>floodwater</u> from any adjacent <u>watercourse</u></p> <p>(4) not contain <u>coal seam gas water</u> that could be stored in an existing alternative storage.</p>	No acceptable outcome is prescribed.

Table 7.1.3: Operational work in a wild river area

Performance outcomes	Acceptable outcomes
Interfering with overland flow water in a wild river area	
<p>PO1 Works are not located in a <u>flood channel</u>.</p>	No acceptable outcome is prescribed.
<p>PO2 Natural and overland flow paths are not significantly altered.</p>	<p>AO2.1 For off-stream storages, the length of the works measured perpendicular to the main direction of <u>floodplain</u> flows is not longer than 500 metres.</p> <p>AND</p> <p>AO2.2 If the works involve more than one storage, storages are located at least 200 metres apart in all directions.</p> <p>AND</p> <p>AO2.3 For specified works, linear infrastructure is to be constructed at ground level, or have openings or culverts to allow overland flows to pass through.</p> <p>AND</p> <p>AO2.4 For specified works, an open drain or trench must be on average no greater than 30 centimetres in depth.</p> <p>AO2.5 Borrow pits are not deeper than 50 centimetres.</p>
<p>PO3 The physical impact of the works on neighbouring properties is minimised.</p>	<p>AO3.1 The works are contained within the boundaries of the premises.</p> <p>AND</p> <p>AO3.2 Any <u>overland flow water</u> resulting from the works exits the premises at approximately the same location that the water exited the premises prior to the works.</p>
<p>PO4 Key riparian areas and wildlife corridors</p>	<p>AO4.1 Works other than specified works are setback at least 200 metres from</p>

Performance outcomes	Acceptable outcomes
are preserved.	the outer banks of a <u>watercourse</u> or <u>lake</u> in a wild river <u>high-preservation area</u> (where a wild river high-preservation area overlaps a wild river <u>floodplain management area</u>) or from a nominated waterway as defined in the <i>Wild Rivers Act 2005</i> .
PO5 Works do not degrade water quality of receiving waters.	A05.1 Works do not concentrate overland flows in a way that causes soil erosion.
Taking overland flow water in a wild river area	
PO6 Works are: (1) not located in a <u>flood channel</u> (2) necessary for the taking of stock and domestic water.	No acceptable outcome is prescribed.
PO7 Natural and overland flow paths are not significantly altered.	A07.1 The length of works, measured perpendicular to the main direction of <u>floodplain</u> flows, are not longer than 500 metres. AND A07.2 If more than one storage, storages are located at least 200 metres apart in all directions. AND A07.3 Levees, diversion banks and bunds used to direct water into storages, or to increase the amount of water that infiltrates the soil, are not longer than 200 metres. AND A07.4 Drains and trenches used to direct water into storages, or to increase the amount of water that infiltrates the soil, are not more than 30 centimetres deep on average.
PO8 The physical impact of the works on neighbouring properties is minimised.	A08.1 The works and area inundated at full supply level are contained within the boundaries of the premises. AND A08.2 Any <u>bywash</u> resulting from the works exits the premises at approximately the same location that the water exited the premises prior to the works.
PO9 Key riparian areas and wildlife corridors are preserved.	A09.1 Works other than specified works are setback at least 200 metres from the outer banks of a watercourse or lake in a high-preservation area, or from a nominated waterway, as defined in the <i>Wild Rivers Act 2005</i> .
PO10 Works do not degrade the water quality of receiving waters.	A010.1 Works do not concentrate overland flows in a way that causes soil erosion.

7.2 Removal of quarry material state code

7.2.1 Purpose

To provide for the sustainable removal of quarry material and management of water resources.

7.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Various aspects of development	Table 7.2.1

Table 7.2.1: Various aspects of development

Performance outcomes	Acceptable outcomes
Riverine quarry material	
PO1 Development does not adversely impact on the natural riverine ecosystem.	No acceptable outcome is prescribed.
PO2 Development does not adversely impact other users' ability to access the resource.	No acceptable outcome is prescribed.
PO3 Development does not adversely impact on the physical integrity of the watercourse.	No acceptable outcome is prescribed.
PO4 The development is located and constructed in a way that is consistent with any of the to the extent they are relevant to the proposed development: (1) a water resource plan (2) a resource operations plan (3) a wild river declaration (4) a moratorium notice issued under the <i>Water Act 2000</i> . Editor's note: Moratorium notices are published on the DNRM website.	No acceptable outcome is prescribed.
PO5 Development does not adversely impact on downstream features, including but not limited to estuaries and beaches, that naturally require riverine quarry material from the watercourse or lake.	No acceptable outcome is prescribed.
PO6 Development is carried out in a way that does not adversely impact built infrastructure such as road crossings, bridges, weirs and pump sites.	No acceptable outcome is prescribed.
In-stream quarry material extraction in wild river areas	
PO7 Extraction occurs only in areas of active	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
deposition, such as: (1) aggrading bars (2) sand slugs (3) benches and islands (4) sediment pockets in bedrock channels.	
PO8 Excavation does not occur below the current bed level of a watercourse or lake.	No acceptable outcome is prescribed.
PO9 Bed and bank stability is preserved during operations.	<p>AO9.1 Vehicle access tracks and crossings associated with the development have scour protection on the bed immediately downstream of the crossing. AND</p> <p>AO9.2 Access ramps and tracks are kept to a minimum, and constructed to minimise erosion and turbulence problems at times of high flow. AND</p> <p>AO9.3 Ramps cut into the bank for vehicle access are orientated downstream. AND</p> <p>AO9.4 Vehicle crossings are orientated perpendicular to the stream channel $\pm 10^\circ$. AND</p> <p>AO9.5 Where vehicle crossings are required: (1) the crossings are at stream-bed level, or (2) if it can be demonstrated that stream-bed level crossings are inappropriate, any culverts for vehicle crossings are aligned with the direction of natural stream flow, when that flow is of a depth equal to the culvert height. AND</p> <p>AO9.6 Development includes measures to prevent stormwater erosion in drains and cuttings on the bank. AND</p> <p>AO9.7 Stream-bed controls are located upstream and downstream of the site. AND</p> <p>AO9.8 Excavation in the bed of the stream is less than one-third of the bed width. AND</p> <p>AO9.9 Clearing of in-stream vegetation is limited to the minimum area required for the development to occur.</p>
PO10 Bed and bank stability is preserved.	<p>AO10.1 The stream is rehabilitated as near as possible to its natural state after the development is carried out. AND</p> <p>AO10.2 Exposed bank areas are prepared to facilitate natural regeneration of native plant species. AND</p> <p>AO10.3 Stream-bed and bank controls are retained upstream and downstream of the site.</p>
PO11 Riparian areas and wildlife corridors along the watercourse or lake are preserved.	<p>AO11.1 Provision is made for fish passage during the carrying out of the development.</p>

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p>AO11.2 The width of vegetation clearing in the riparian zone is limited to that required for the development plus 2 metres each side.</p> <p>AND</p> <p>AO11.3 Areas of riparian zone cleared of vegetation but no longer required for the development are prepared to facilitate natural regeneration of native plant species.</p>

7.3 Reference documents

Department of Environment and Resource Management 2012 [Minimum standards for the construction and reconditioning of water bores that intersect the sediments of artesian basins in Queensland](#).

Australian Government National Water Commission 2012 [Minimum construction requirements for water bores in Australia, Edition 3](#).

7.4 Glossary of terms

Artesian water – see the *Water Act 2000*, schedule 4.

Editor's note: Artesian water means water that occurs naturally in, or is introduced artificially into, an aquifer, which if tapped by a bore, would flow naturally to the surface.

Beneficial use means the resource such as water has a beneficial use other than disposal-an example of beneficial use is reusing or recycling water.

Bywash means water that is diverted from a dam or reservoir and is usually associated with a pipe or other structure to prevent uncontrolled overtopping.

Certified report is a report:

- (1) produced and certified by a person:
 - (a) who is an RPEQ, and
 - (b) who has relevant farm water supply discipline experience if the proposed development is for agricultural production
- (2) that is prepared in accordance with the *Certification guidelines for assessable works that take overland flow water*, Department of Natural Resources and Water, 2008

Coal seam gas water means underground water brought to the surface of the earth or moved underground in connection with exploring for or producing coal seam gas.

Contaminated agricultural runoff water means overland flow water that contains, or is likely to contain, excess nutrients or farm chemicals at levels potentially harmful to the quality of water in a watercourse.

Declared drainage and embankment area means an area declared to be a drainage and embankment area under the *Water Act 2000*.

Environmental authority see the *Environmental Protection Act 1994*.

Editor's note: Environmental authority means generally an environmental authority issued under section 195 of the *Environmental Protection Act 1994* that approves an environmentally relevant activity applied for in an application;

Existing works means works that allow taking of overland flow water that are in existence at the time the relevant development application is made.

Flood channel means a natural secondary channel on a floodplain that carries water during flood events. This term includes distributary channels that disperse waters across floodplains and terminal wetlands, and flood runners that are shallow channels with entry and exit points off watercourses.

Floodplain see the *Water Act 2000*

Editor's note: Floodplain means an area of relatively flat land next to a drainage channel and which is covered by water when it overflows from the drainage channel.

Floodwater see the *Water Act 2000*

Editor's note: Floodwater, in relation to a watercourse or lake, means water that has overflowed the outer banks of the watercourse, or the bed and banks of the lake, because of a flood event affecting the watercourse or lake, and is on land near the watercourse or lake.

Incidental take of overland flow water means to take overland flow water in a storage that is primarily for storing water from a source other than overland flow.

Intensive stocking is a technique of stocking land on a long term basis above what is normally considered to be the carrying capacity of the land, for example, by implementing strategic or rotational grazing.

Resource operations plan see the *Water Act 2000*, schedule 4.

Editor's note: Resource operations plan means resource operations plan means a plan approved under section 103(5) of the *Water Act 2000*.

Same premises means contiguous parcels of land or tenure under the same land ownership or tenure holder.

Water resource plan see the *Water Act 2000*, schedule 4.

Editor's note: Water resource plan means a plan approved under section 50(2) of the *Water Act 2000*.

Wetland of ecological significance includes a natural freshwater wetland identified under the State Planning Policy.

Editor's notes:

- (1) A statewide map of the Great Barrier Reef Catchments is available on the Department of Environment and Heritage Protection's website.
- (2) A property scale map is also available on the Department of Environment and Heritage Protection's website.

Abbreviations

DNRM – Department of Natural Resources and Mines

RPEQ – Registered Professional Engineer Queensland

7.5 Reference tables

Table 7.5.1 Limited catchment area parameters

Column 1: Water resource plan area	Column 2: Sub-catchment/ management area	Column 3: Area of local catchment	Column 4: Limited capacity
Fitzroy Basin	Fitzroy, Lower Mackenzie, Upper Mackenzie, Lower Dawson, Upper Dawson, Isaac Connors, and Nogoia	250 ha	50 ML
Burnett Basin	Coastal Burnett overland flow management area	25 ha	20 ML
Burnett Basin Inland	Burnett overland flow management area	625 ha	250 ML

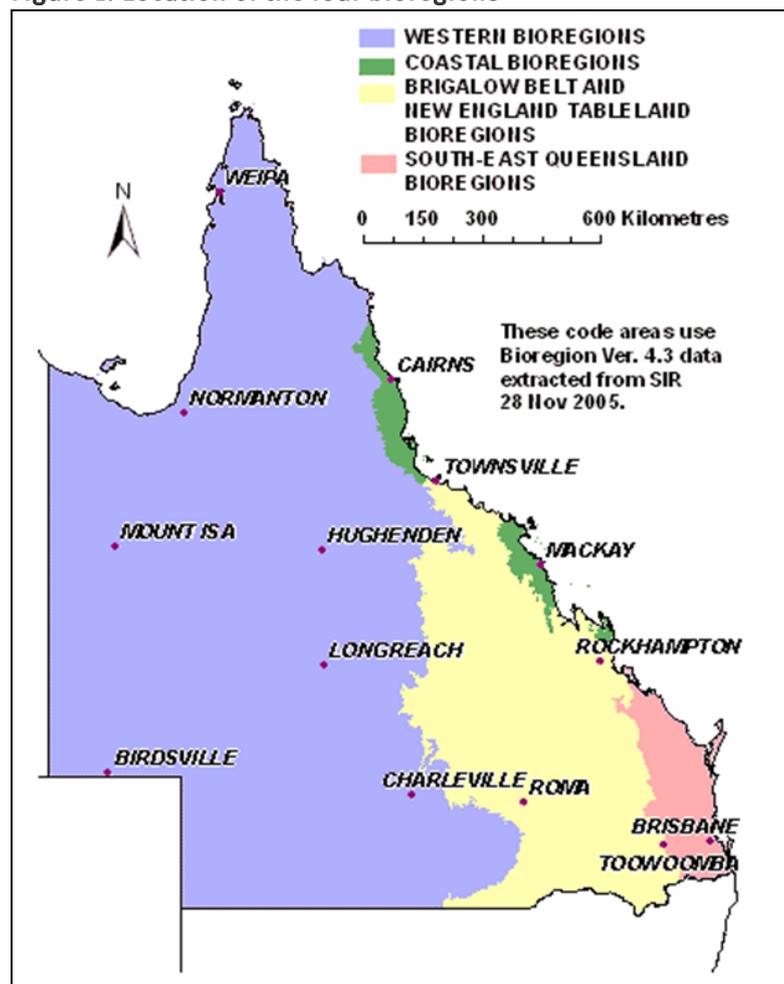
Module 8. Native vegetation clearing

Native vegetation clearing contains four bioregion state codes:

- (1) 8.1 South East Queensland bioregion state code
- (2) 8.2 Brigalow Belt and New England tablelands bioregion state code
- (3) 8.3 Western bioregions state code
- (4) 8.4 Coastal bioregions state code.

Development is assessed against the applicable state code for the relevant bioregion. For example, if the proposed development is located within the coastal bioregions, the applicable state code will be 8.4 Coastal bioregions state code.

Figure 1: Location of the four bioregions



8.1 South East Queensland bioregion state code

8.1.1 Purpose

The purpose of the code is to regulate the clearing of native vegetation within the South East Queensland bioregion to:

- (1) conserve remnant vegetation that is—
 - (a) an endangered regional ecosystem
 - (b) an of concern regional ecosystem
 - (c) a least concern regional ecosystem
- (2) conserve vegetation in declared areas
- (3) ensure clearing does not cause land degradation
- (4) prevent loss of biodiversity
- (5) maintain ecological processes
- (6) manage environmental effects of the clearing to achieve (1) through (5)
- (7) reduce greenhouse gas emissions.

8.1.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 8.1.1
Operational work	Table 8.1.2
Reconfiguring a lot	Table 8.1.1

- (2) Development that is a material change of use or reconfiguring a lot mentioned in column 1 of Table 8.1.1 must comply with the relevant provisions of Tables 8.1.3 to 8.1.11 mentioned in column 2 of Table 8.1.1.
- (3) Development that is operational work mentioned in column 1 of Table 8.1.2 must comply with the relevant provisions of Tables 8.1.4 to 8.1.11 mentioned in column 2 of Table 8.1.2.

Table 8.1.1: Development and relevant provisions of the code—material change of use and reconfiguring a lot

Development	Relevant provisions of code
An application for a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.1.7 Coordinated projects
An application for an extractive industry that is for a <u>significant community project</u>	Table 8.1.3 —General: PO1 Table 8.1.11 —Extractive industry that is not a <u>key resource area</u> : PO2–PO10
An application for any other purpose that is for a <u>significant community project</u>	Table 8.1.3 —General: PO1 Table 8.1.6 —Public safety and infrastructure: PO2–PO10
An application for an extractive industry in a <u>key resource area</u>	Table 8.1.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10
An application for any other purpose where <u>clearing</u> of an endangered or of concern	Table 8.1.3 —General: PO1–PO2 For an extractive industry in an area that is not a <u>key resource area</u> :

Development	Relevant provisions of code
regional ecosystem will occur	Table 8.1.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.1.6 —Public safety and infrastructure: PO2–PO10
An application for any other purpose where <u>clearing</u> of a least concern regional ecosystem will occur	Table 8.1.3 —General: PO1 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.1.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.1.6 —Public safety and infrastructure: PO2–PO10

Table 8.1.2: Development and relevant provisions of the code—operational work

Development	Relevant provisions of code
<u>Clearing</u> of encroachment	Table 8.1.4 —Encroachment: PO1
For <u>fodder harvesting</u>	Table 8.1.5 —Fodder: PO1
Establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure (each relevant infrastructure), and the <u>clearing</u> for the relevant infrastructure cannot reasonably be avoided or minimised	Table 8.1.6 —Public safety and infrastructure: PO1–PO10
<u>Clearing</u> that is a natural and ordinary consequence of other assessable development for which a development approval was given under the repealed <i>Integrated Planning Act 1997</i> , or a development application was made under that Act, before 16 May 2003	Table 8.1.6 —Public safety and infrastructure: PO1–PO10
To ensure public safety	Table 8.1.6 —Public safety and infrastructure: PO1–PO10
A project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.1.7 —Coordinated projects: PO1–PO10
For thinning	Table 8.1.8 —Thinning: PO1–PO7
Necessary to control non-native plants or declared pests	Table 8.1.9 —Weed or pest management: PO1–PO7
For an extractive industry in a <u>key resource area</u>	Table 8.1.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10
For an extractive industry that is not in a <u>key resource area</u>	Table 8.1.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO1–PO10

Table 8.1.3: General

Performance outcomes	Acceptable outcomes
Clearing to avoid and minimise impacts	
PO1 To regulate the <u>clearing</u> of vegetation in a way that ensures the conservation of regional ecosystems, <u>clearing</u> only occurs where the applicant has demonstrated that the development has first avoided and minimised the impacts of development.	No acceptable outcome is prescribed.
Biodiversity and conservation outcomes	
PO2 <u>Clearing</u> may occur only where it can be demonstrated that the level of conservation and biodiversity outcomes ensured by the development significantly exceeds the extent and value of the area proposed to be cleared. This can only be achieved by meeting the requirements of Appendix A: Vegetation offset policy.	No acceptable outcome is prescribed.

Table 8.1.4: Encroachment

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of encroachment does not occur in the South East Queensland bioregion.	No acceptable outcome is prescribed.

Table 8.1.5: Fodder

Performance outcomes	Acceptable outcomes
Limits to fodder harvesting	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for <u>fodder harvesting</u> does not occur in the South East Queensland bioregion.	No acceptable outcome is prescribed.

Table 8.1.6: Public safety and infrastructure

Performance outcomes	Acceptable outcomes
Limits to clearing for public safety and infrastructure	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary:</p> <ol style="list-style-type: none"> (1) for establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure, if there is no suitable alternative site for the fence, firebreak, road, track or infrastructure, or (2) as a natural and ordinary consequence of other assessable development for which a development approval as defined under the repealed <i>Integrated Planning Act 1997</i> was given, or a development application as defined under that Act was made, before 16 May 2003, or (3) to ensure public safety. 	<p>No acceptable outcome is prescribed.</p>
Wetlands	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO2.1 Clearing does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>AND</p> <p>AO2.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.
Watercourses	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank 	<p>AO3.1 Clearing does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order 5</u> or greater (3) within 25 metres from each high bank of each <u>watercourse</u> with a <u>stream order 3</u> or 4 (4) within 10 metres from each high bank of each <u>watercourse</u> with a <u>stream</u>

Performance outcomes	Acceptable outcomes
<p>erosion</p> <p>(2) water quality by filtering sediments, nutrients and other pollutants</p> <p>(3) aquatic habitat</p> <p>(4) terrestrial habitat.</p>	<p><u>order 1 or 2.</u></p> <p>AND</p> <p>AO3.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <p>(5) bank stability by protecting against bank erosion</p> <p>(6) water quality by filtering sediments, nutrients and other pollutants</p> <p>(7) aquatic habitat</p> <p>(8) terrestrial habitat.</p>
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are:</p> <p>(9) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(10) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(11) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	<p>AO4.1 Where <u>clearing</u> is less than:</p> <p>(12) 10 metres wide, or</p> <p>(13) 2 hectares</p> <p><u>clearing</u> does not:</p> <p>(a) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres</p> <p>(b) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres.</p> <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <p>(1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares</p> <p>(2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares</p> <p>(3) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres</p> <p>(4) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres</p> <p>(5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are subject of the application</p> <p>(6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of mapped remnant vegetation</u> where the vegetation is:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p>	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> <p>(1) <u>very stable soils on a slope</u> less than 30 per cent</p> <p>(2) <u>stable soils on a slope</u> less than 20 per cent</p> <p>(3) <u>unstable soils on a slope</u> less than 15 per cent</p>

Performance outcomes	Acceptable outcomes
(1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	(4) <u>very unstable soils</u> on a <u>slope</u> less than 10 per cent.
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: (1) <u>waterlogging</u> , or (2) the <u>salinisation</u> of <u>groundwater</u> , surface water or soil.	A06.1 Where <u>clearing</u> is less than: (1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u> . AND A06.2 Where <u>clearing</u> is less than: (1) 5 hectares, or (2) 50 metres wide <u>clearing</u> does not occur: (a) in any <u>discharge area</u> , or (b) within 200 metres of any <u>discharge area</u> . AND A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	A07.1 <u>Clearing</u> : (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 1 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 1 only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u> .	A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 2.	A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 2, does not occur unless the <u>clearing</u> is less than: (1) 10 metres wide, or (2) 2 hectares.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a	A010.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5

Performance outcomes	Acceptable outcomes
way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.

Table 8.1.7 Coordinated projects

Performance outcomes	Acceptable outcomes
Limits to clearing	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for the project, any associated ancillary works, and the operation of works that comprise a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26.	No acceptable outcome is prescribed.
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	AO2.1 Clearing does not occur: <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants 	AO3.1 Clearing does not occur: <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order 5 or greater</u> (3) within 25 metres from each high bank of each <u>watercourse</u> with a <u>stream order 3 or 4</u> (4) within 10 metres from each high bank of each <u>watercourse</u> with a <u>stream order 1 or 2</u>.

Performance outcomes	Acceptable outcomes
(3) aquatic habitat (4) terrestrial habitat.	
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	<p>AO4.1 Where <u>clearing</u> is less than:</p> <ol style="list-style-type: none"> (1) 10 metres wide, or (2) 2 hectares <p><u>clearing</u> does not:</p> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres. <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application. <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent</u> of <u>mapped remnant vegetation</u> where the vegetation is:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility including, but not limited to water holding capacity, soil structure, organic matter, soil biology and 	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> <ol style="list-style-type: none"> (1) <u>very stable soils</u> on a <u>slope</u> less than 30 per cent (2) <u>stable soils</u> on a <u>slope</u> less than 20 per cent (3) <u>unstable soils</u> on a <u>slope</u> less than 15 per cent (4) <u>very unstable soils</u> on a <u>slope</u> less than 10 per cent.

Performance outcomes	Acceptable outcomes
<p>nutrients within or outside the lot(s) that are the subject of the application.</p>	
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or (2) 50 metres wide <u>clearing</u> does not occur:</p> <p>(a) in any <u>discharge area</u>, or (b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 1 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 1 only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u>.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 2.</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 2, does not occur unless the <u>clearing</u> is less than:</p> <p>(1) 10 metres wide, or (2) 2 hectares.</p>
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.</p>	<p>A010.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Table 8.1.8: Thinning

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of thinning does not occur in the regional ecosystems listed in Table 3, except where <u>clearing</u> is solely for removing native plants not indigenous to the bioregion.	No acceptable outcome is prescribed.
Vegetation density	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs where there is an increase of greater than 30 per cent in the cover or density of vegetation within the <u>application area</u> when compared with the cover or density of vegetation typical of the same regional ecosystem surrounding that locality.	<p>AO2.1 <u>Clearing</u> only occurs in areas where:</p> <ol style="list-style-type: none"> (1) there is an increase of greater than 30 per cent in the <u>woody species crown cover</u>, determined by comparison of the <u>most recent suitable imagery</u> of the <u>application area</u> with <u>past suitable imagery</u> of the <u>application area</u>, or (2) the <u>woody species crown cover</u> is greater than 70 per cent on <u>past suitable imagery</u>, and the stem density of <u>immature trees</u> is greater than 1000 stems per hectare, or (3) the total <u>application area</u> is less than 15 hectares, and there is a stem density of <u>immature trees</u> and woody plants greater than 250 stems in each 50 metre x 50 metre (0.25 hectare) area. <p>OR</p> <p>AO2.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Wetlands	
PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>OR</p> <p>AO3.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Watercourses	
PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion 	<p>AO4.1 <u>Mechanical clearing</u> does not occur in the regional ecosystems listed in Table 4.</p> <p>AND</p> <p>AO4.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>

Performance outcomes	Acceptable outcomes
(2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	
Soil erosion	
PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	A05.1 <u>Mechanical clearing</u> only occurs on: <ol style="list-style-type: none"> (1) <u>very stable soils</u> on a <u>slope</u> less than 15 per cent (2) <u>stable soils</u> on a <u>slope</u> less than 12 per cent (3) <u>unstable soils</u> on a <u>slope</u> less than 8 per cent (4) <u>very unstable soils</u> on a <u>slope</u> less than 8 per cent. OR A05.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Conserving remnant vegetation that are regional ecosystems	
PO6 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities: <ol style="list-style-type: none"> (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem, evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u>. 	A06.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not remove <u>mature trees</u> (2) does not remove <u>immature trees</u> below the relevant density in Table 5 (3) occurs in a configuration that evenly retains in each 50 metre x 50 metre area the <u>range of sizes</u> of each of the species, except for native plants not indigenous to the bioregion. OR A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Acid sulfate soils	
PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	A07.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002. OR A07.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Table 8.1.9: Weed or pest management

Performance outcomes	Acceptable outcomes
Limits to clearing for weed or pest management	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO7, <u>clearing</u> is limited to the extent necessary to: <ol style="list-style-type: none"> (1) control non-native plants or declared pests, or (2) provide access for control of non-native plants or declared pests if no alternative route exists. 	
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	AO2.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any natural <u>wetland</u> (2) 100 metres from any natural <u>wetland</u> (3) any natural <u>significant wetland</u> (4) 200 metres from any natural <u>significant wetland</u> occurs only: <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and the <u>clearing</u> is carried out in accordance with that plan.
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	AO3.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any <u>watercourse</u> (2) 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) 25 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) 10 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2 occurs only: <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and the <u>clearing</u> is carried

Performance outcomes	Acceptable outcomes
	out in accordance with that plan.
Soil erosion	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <p>(1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, <u>tunnel erosion</u>, <u>stream bank erosion</u>, <u>wind erosion</u> or <u>scalding</u></p> <p>(2) any associated loss of chemical, physical or biological fertility including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients</p> <p>within or outside the lot(s) that are the subject of the application.</p>	<p>AO4.1 <u>Clearing</u> and associated soil disturbance on:</p> <p>(1) <u>very stable soils</u> on a <u>slope</u> greater than 20 per cent</p> <p>(2) <u>stable soils</u> on a <u>slope</u> greater than 15 per cent</p> <p>(3) <u>unstable soils</u> on a <u>slope</u> greater than 12 per cent</p> <p>(4) <u>very unstable soils</u> on a <u>slope</u> greater than 8 per cent</p> <p>occurs only:</p> <p>(a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren</p> <p>(b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and the <u>clearing</u> is carried out in accordance with that plan.</p>
Conserving remnant vegetation that are regional ecosystems	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities:</p> <p>(1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u></p> <p>(2) do not remove <u>mature trees</u>.</p>	<p>AO5.1 <u>Clearing</u> that is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <p>(1) in accordance with a <u>pest eradication plan</u></p> <p>(2) to the extent necessary to provide access for the control of the class 1 or 2 pest if no alternative route exists.</p> <p>OR</p> <p>AO5.2 Where <u>clearing</u> is to control or provide access to a non-native or declared plant, <u>clearing</u>:</p> <p>(1) to control the declared or non-native plant—</p> <p>(a) must be in accordance with the limitations set out in Table 6</p> <p>(b) does not occur by the <u>aerial application of root absorbed herbicides</u></p> <p>(c) occurs only to the extent necessary to provide access for the control of the declared or non-native plant if no alternative route exists.</p> <p>OR</p> <p>AO5.3 <u>Clearing</u> to control a declared pest animal under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <p>(1) within a 3 metre radius around each hole of a rabbit warren</p> <p>(2) to the extent necessary to provide access to a rabbit warren if no alternative route exists.</p>
Requirements for dense regional ecosystems	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes, removal of canopy vegetation does</p>	<p>AO6.1 <u>Clearing</u> and associated soil disturbance in regional ecosystems listed in Table 7 occurs only:</p> <p>(1) within a 1.5 metre radius from the base of the stem or individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren</p>

Performance outcomes	Acceptable outcomes
not occur in regional ecosystems listed in Table 7.	(2) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and the <u>clearing</u> is carried out in accordance with that plan.
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.</p>	<p>AO7.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Soil Management Guidelines in the Queensland Acid Sulfate Soil Technical Manual</i>, Department of Natural Resources and Mines, 2002—unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and the <u>clearing</u> is carried out in accordance with that plan.</p>

Table 8.1.10: Extractive industry in a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for:</p> <p>(1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3).</p>	No acceptable outcome is prescribed.
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, conserves <u>remnant vegetation</u> that are regional ecosystems, maintains ecological processes and does not cause land degradation, <u>clearing</u>:</p> <p>(1) is staged in line with operational needs</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>that restrict <u>clearing</u> to the current operational area</p> <p>(2) is limited to the area from which material will be extracted within the term of the development approval</p> <p>(3) cannot occur until all required permits are obtained.</p>	
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent</u> of assessable vegetation associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <p>(1) water quality by filtering sediments, nutrients and other pollutants</p> <p>(2) aquatic habitat</p> <p>(3) terrestrial habitat.</p>	No acceptable outcome is prescribed.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent</u> of <u>assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <p>(1) bank stability by protecting against bank erosion</p> <p>(2) water quality by filtering sediments, nutrients and other pollutants; and</p> <p>(3) aquatic habitat</p> <p>(4) terrestrial habitat.</p>	No acceptable outcome is prescribed.
Connectivity	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	No acceptable outcome is prescribed.
Salinity	

Performance outcomes	Acceptable outcomes
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or</p> <p>(2) the <u>salinisation of groundwater</u>, surface water or soil.</p>	No acceptable outcome is prescribed.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	No acceptable outcome is prescribed.
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u>.</p>	No acceptable outcome is prescribed.
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and conserves <u>remnant vegetation</u> that are regional ecosystems, <u>maintain the current extent</u> of regional ecosystems listed in Table 2.</p>	No acceptable outcome is prescribed.
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or</p> <p>(2) mobilise acid or metals.</p>	No acceptable outcome is prescribed.

Table 8.1.11: Extractive industry in an area that is not a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10,</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p><u>clearing</u> is limited to the extent that is necessary for one or more of the following:</p> <ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2), and (3). 	
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material will be extracted within the term of the permit (3) cannot occur until all required permits are obtained. 	<p>No acceptable outcome is prescribed.</p>
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion 	<p>AO4.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 25 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 10 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2.

Performance outcomes	Acceptable outcomes
(2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	
Connectivity	
PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are: <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	A05.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 10 metres wide, or (2) 2 hectares, <u>clearing</u> does not: <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres. OR A05.2 <u>Clearing</u> does not: <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 100 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 100 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	A06.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u> . OR A06.2 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	A07.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 1 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 1, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.

Performance outcomes	Acceptable outcomes
Essential habitat	
P08 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Conservation status thresholds	
P09 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent of regional ecosystems</u> listed in Table 2.	A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 2 does not occur unless the <u>clearing</u> is less than 2 hectares.
Acid sulfate soils	
P010 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	A010.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum, follows management principles in accordance with the <i>Soil Management Guidelines in the Queensland Acid Sulfate Soil Technical Manual</i> , Department of Natural Resources and Mines, 2002.

8.1.3 Reference tables

Table 1

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.9.4 Semi-evergreen vine thicket or <i>Acacia harpophylla</i> with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.12.21 <i>Acacia harpophylla</i> open forest on igneous rocks. Colluvial lower slopes
12.1.1 <i>Casuarina glauca</i> open forest on margins of marine clay plains
12.2.1 Notophyll vine forest on parabolic high dunes
12.2.2 Microphyll/notophyll vine forest on beach ridges
12.2.3 Araucarian vine forest on parabolic high dunes
12.3.1 Gallery rainforest (notophyll vine forest) on alluvial plains
12.3.2 <i>Eucalyptus grandis</i> tall open forest on alluvial plains
12.3.4 <i>Melaleuca quinquenervia</i> , <i>Eucalyptus robusta</i> open forest on or near coastal alluvial plains
12.3.13 Closed heathland on seasonally waterlogged alluvial plains near coast
12.5.6 <i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> , <i>E. microcorys</i> or <i>E. pilularis</i> open forest on remnant Tertiary surfaces. Usually deep red soils
12.5.11 <i>Syncarpia glomulifera</i> open forest on complex of remnant Tertiary surface and Tertiary sedimentary rocks
12.5.13 Microphyll to notophyll vine forest ± <i>Araucaria cunninghamii</i> on remnant Tertiary surfaces
12.8.2 <i>Eucalyptus oreades</i> tall open forest on Cainozoic igneous rocks
12.8.6 Simple microphyll fern forest with <i>Nothofagus moorei</i> on Cainozoic igneous rocks
12.8.7 Simple microphyll fern thicket with <i>Acmena smithii</i> on Cainozoic igneous rocks
12.8.8 <i>Eucalyptus saligna</i> or <i>E. grandis</i> tall open forest on Cainozoic igneous rocks
12.8.10 <i>Eucalyptus laevopinea</i> tall open forest on Cainozoic igneous rocks
12.8.12 <i>Eucalyptus obliqua</i> tall open forest on Cainozoic igneous rocks
12.8.13 Araucarian complex microphyll vine forest on Cainozoic igneous rocks
12.8.18 Simple notophyll vine forest with <i>Ceratopetalum apetalum</i> on Cainozoic igneous rocks
12.8.21 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on Cainozoic igneous rocks. Southern half of bioregion
12.8.22 Semi-evergreen vine thicket with <i>Brachychiton australis</i> on Cainozoic igneous rocks. Northern half of bioregion
12.9-10.1 Shrubby open forest often with <i>Eucalyptus resinifera</i> , <i>E. grandis</i> , <i>Corymbia intermedia</i> on sedimentary rocks
12.9-10.15 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on sedimentary rocks
12.9-10.16 Araucarian microphyll to notophyll vine forest on sedimentary rocks
12.9-10.20 <i>Eucalyptus montivaga</i> open forest on sedimentary rocks
12.11.4 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics
12.11.12 Araucarian complex microphyll vine forest on metamorphics ± interbedded volcanics. Northern half of bioregion
12.11.13 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics. Northern half of bioregion
12.11.16 Tall open forest with <i>Eucalyptus cloeziana</i> on metamorphics ± interbedded volcanics
12.11.23 Tall open forest of <i>Eucalyptus pilularis</i> open forest on metamorphics and interbedded volcanics

Table 2

Regional ecosystems that are at risk of the remnant extent falling below 30% of its pre-clearing extent, or having a remnant extent of less than 10 000 hectares

11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks
12.2.5 <i>Corymbia</i> spp., <i>Banksia integrifolia</i> , <i>Callitris columellaris</i> , <i>Acacia</i> spp. open forest to low closed forest on beach ridges. Southern half of bioregion
12.2.10 Mallee <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. low woodland on dunes and sand plains, especially southern sandmass islands. Deeply leached soils
12.2.12 Closed heath on seasonally waterlogged sand plains
12.8.1 <i>Eucalyptus campanulata</i> tall open forest on Cainozoic igneous rocks
12.8.3 Complex notophyll vine forest on Cainozoic igneous rocks. Altitude <600 metres
12.8.9 <i>Lophostemon confertus</i> tall open forest on Cainozoic igneous rocks
12.11.1 Simple notophyll vine forest often with abundant <i>Archontophoenix cunninghamiana</i> ('gully vine forest') on metamorphics interbedded volcanics
12.12.7 <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks
12.12.24 <i>Angophora leiocarpa</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks
12.12.25 <i>Eucalyptus fibrosa</i> subsp. <i>fibrosa</i> tall woodland to open forest on Mesozoic to Proterozoic igneous rocks

Table 3

Regional ecosystems where thinning cannot occur

11.1.4 Mangrove forest/woodland on marine clay plains
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks
11.9.4 Semi-evergreen vine thicket or <i>Acacia harpophylla</i> with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.9.5 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on fine-grained sedimentary rocks
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.14 <i>Acacia harpophylla</i> open forest on deformed and metamorphosed sediments and interbedded volcanics
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
11.12.21 <i>Acacia harpophylla</i> open forest on igneous rocks. Colluvial lower slopes
12.1.1 <i>Casuarina glauca</i> open forest on margins of marine clay plains
12.1.2 Saltpan vegetation including grassland, herbland and sedgeland on marine clay plains
12.1.3 Mangrove shrubland to low closed forest on marine clay plains and estuaries

Table 4

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur

11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines
11.3.27 Freshwater wetlands
11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains/remnant surfaces
12.2.7 <i>Melaleuca quinquenervia</i> or <i>M. viridiflora</i> open forest to woodland on sand plains

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur

12.2.15 Swamps with <i>Baumea</i> spp., <i>Juncus</i> spp. and <i>Lepironia articulata</i>
12.3.2 <i>Eucalyptus grandis</i> tall open forest on alluvial plains
12.3.4 <i>Melaleuca quinquenervia</i> , <i>Eucalyptus robusta</i> open forest on coastal alluvium
12.3.5 <i>Melaleuca quinquenervia</i> open forest on coastal alluvial plains
12.3.6 <i>Melaleuca quinquenervia</i> , <i>Eucalyptus tereticornis</i> , <i>Lophostemon suaveolens</i> woodland on coastal alluvial plains
12.3.7 <i>Eucalyptus tereticornis</i> , <i>Callistemon viminalis</i> , <i>Casuarina cunninghamiana</i> fringing forest
12.3.8 Freshwater swamps with <i>Cyperus</i> spp., <i>Schoenoplectus</i> spp. and <i>Eleocharis</i> spp.
12.3.9 <i>Eucalyptus nobilis</i> open forest on alluvial plains
12.9-10.22 Closed sedgeland/shrubland on sedimentary rocks. Coastal parts

Table 5**Immature tree densities required to be retained**

Structure (the structure category of each regional ecosystem is specified in the regional ecosystem description database)	Density of immature trees that must be retained for each 50 metre X 50 metre (0.25 hectare) area
Mid-dense	125
Sparse	75
Very sparse	50

Table 6**Clearing native vegetation for non-native woody species control**

Percentage of area covered by the non-native plant or declared weed)	Clearing limitations
0–20% <u>non-native woody species crown cover</u>	No clearing of native vegetation
>20% <u>non-native woody species crown cover</u>	Clearing: a) of <u>mature trees</u> of native species does not occur b) retains the densities of <u>immature trees</u> listed in Table 5.

Table 7**Dense regional ecosystems**

11.3.11 Semi-evergreen vine thicket on alluvial plains
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks
11.9.4 Semi-evergreen vine thicket or <i>Acacia harpophylla</i> with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
12.1.3 Mangrove shrubland to low closed forest on marine clay plains and estuaries
12.2.1 Notophyll vine forest on parabolic high dunes
12.2.2 Microphyll/notophyll vine forest on beach ridges
12.2.3 Araucarian vine forest on parabolic high dunes
12.2.12 Closed heath on seasonally waterlogged sand plains

Dense regional ecosystems
12.3.1 Gallery rainforest (notophyll vine forest) on alluvial plains
12.3.13 Closed heathland on seasonally waterlogged alluvial plains near coast
12.5.13 Microphyll to notophyll vine forest ± <i>Araucaria cunninghamii</i> on remnant Tertiary surfaces
12.8.3 Complex notophyll vine forest on Cainozoic igneous rocks. Altitude <600 metres
12.8.4 Complex notophyll vine forest with <i>Araucaria</i> spp. on Cainozoic igneous rocks
12.8.5 Complex notophyll vine forest on Cainozoic igneous rocks. Altitude usually >600 metres
12.8.6 Simple microphyll fern forest with <i>Nothofagus moorei</i> on Cainozoic igneous rocks
12.8.7 Simple microphyll fern thicket with <i>Acmena smithii</i> on Cainozoic igneous rocks
12.8.13 Araucarian complex microphyll vine forest on Cainozoic igneous rocks
12.8.18 Simple notophyll vine forest with <i>Ceratopetalum apetalum</i> on Cainozoic igneous rocks
12.8.21 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on Cainozoic igneous rocks. Southern half of bioregion
12.8.22 Semi-evergreen vine thicket with <i>Brachychiton australis</i> on Cainozoic igneous rocks. Northern half of bioregion
12.9-10.15 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on sedimentary rocks
12.9-10.16 Araucarian microphyll to notophyll vine forest on sedimentary rocks
12.11.1 Simple notophyll vine forest often with abundant <i>Archontophoenix cunninghamiana</i> on metamorphics ± interbedded volcanics
12.11.4 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics
12.11.10 Notophyll vine forest ± <i>Araucaria cunninghamii</i> on metamorphics ± interbedded volcanics
12.11.11 Araucarian microphyll vine forest on metamorphics ± interbedded volcanics. Southern half of bioregion
12.11.12 Araucarian complex microphyll vine forest on metamorphics ± interbedded volcanics. Northern half of bioregion
12.11.13 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics. Northern half of bioregion
12.12.1 Simple notophyll vine forest usually with abundant <i>Archontophoenix cunninghamiana</i> on Mesozoic to Proterozoic igneous rocks
12.12.10 Shrubland on rocky peaks on Mesozoic to Proterozoic igneous rocks
12.12.13 Araucarian complex microphyll to notophyll vine forest on Mesozoic to Proterozoic igneous rocks
12.12.16 Notophyll vine forest on Mesozoic to Proterozoic igneous rocks
12.12.17 Semi-evergreen vine thicket on Mesozoic to Proterozoic igneous rocks. South of bioregion
12.12.18 Semi-evergreen vine thicket on Mesozoic to Proterozoic igneous rocks. North of bioregion

Table 8

Fodder species	
Common name	Scientific name
Mulga	<i>Acacia aneura</i>
Ironwood	<i>Acacia excelsa</i>
Myall	<i>Acacia pendula</i>
Red ash	<i>Alphitonia excelsa</i>
Leopardwood	<i>Flindersia maculosa</i>
Wilga, Tree wilga	<i>Geijera parviflora</i>
Umbrella mulga	<i>Acacia cibaria</i> (<i>Acacia brachystachya</i>)
Bastard (turpentine) mulga	<i>Acacia stowardii</i>

Table 9

Mature tree size limits	
Genus	Diameter at 1.3 metres high (add the diameter of all stems for multi-stemmed plants)
Eucalyptus, Corymbia, Angophora, Lophostemon	>40 centimetres
Genera other than Eucalyptus, Corymbia, Angophora and Lophostemon	>20 centimetres

Table 10

Size classes	
Class	Diameter at breast height over bark
1	< 5 centimetres
2	5–10 centimetres
3	>10–20 centimetres
4	>20–40 centimetres

Table 11

Wetland regional ecosystems
11.3.27 Freshwater wetlands
11.5.17 Eucalyptus tereticornis woodland in depressions on Cainozoic sand plains/remnant surfaces
12.2.7 Melaleuca quinquenervia or M. viridiflora open forest to woodland on sand plains
12.2.15 Swamps with Baumea spp., Juncus spp. and Lepironia articulata
12.3.4 Melaleuca quinquenervia, Eucalyptus robusta open forest on coastal alluvium
12.3.5 Melaleuca quinquenervia open forest on coastal alluvial plains
12.3.6 Melaleuca quinquenervia, Eucalyptus tereticornis, Lophostemon suaveolens woodland on coastal alluvial plains
12.3.8 Freshwater swamps with Cyperus spp., Schoenoplectus spp. and Eleocharis spp.
12.9-10.22 Closed sedgeland/shrubland on sedimentary rocks. Coastal parts

Table 12

Soil stability class and soil characteristics	
Soil stability class*	Soil characteristics
Very stable	Soils that are Ferrosols (Krasnozems, Euchrozems and Xanthozems)
Stable	Soils other than very stable soils, unstable soils or very unstable soils
Unstable	Soils that are Chromosols, Hydrosols, Kurosols, and Sodosols that do not have a <u>hard-setting</u> , fine sandy loam to silty clay loam surface (Soloths, Solodic soils and Solonchaks) OR Soils with a clear or abrupt textural B horizon and: a) an A horizon at least 30 centimetres thick or b) a B horizon that is not <u>dispersible</u> and the soil does not exhibit <u>hard-setting</u> characteristics.

Soil stability class and soil characteristics

Very unstable

Soils that are Sodosols with hard-setting, fine sandy loam to silty clay loam surfaces (Solodic soils, Solodized solonetz and Solonetz)

OR

Soils with an A horizon less than 30 centimetres thick and:

a) the B horizon is dispersible

or

b) the soil exhibits hard-setting characteristics.

*Where a soil meets the characteristics of two soil stability classes then the less stable class must be used.

8.1.4 Figures

Figure 1: Location of South East Queensland bioregion

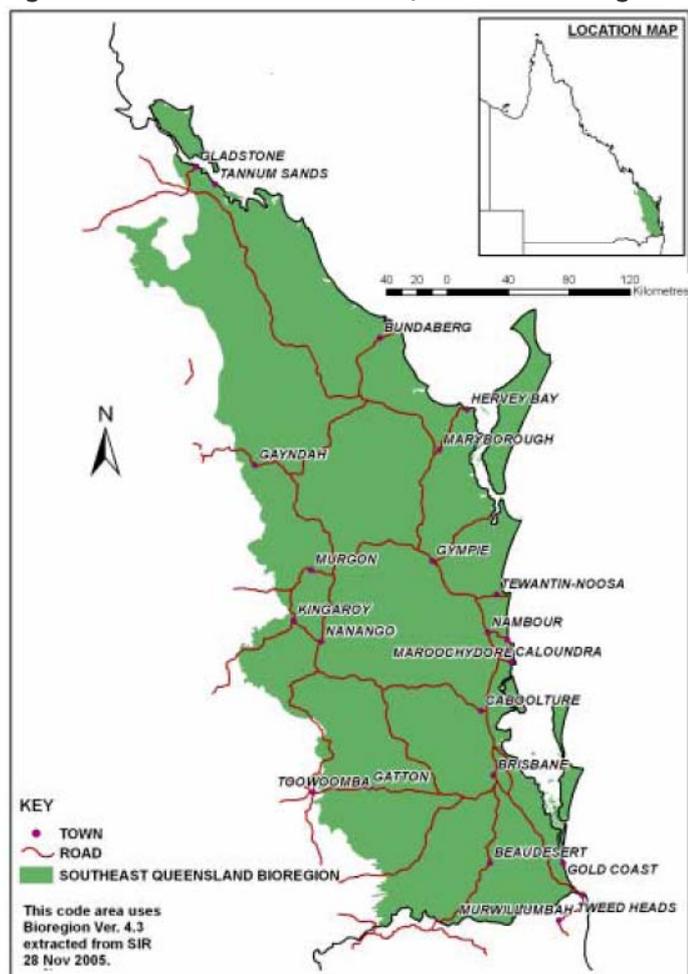
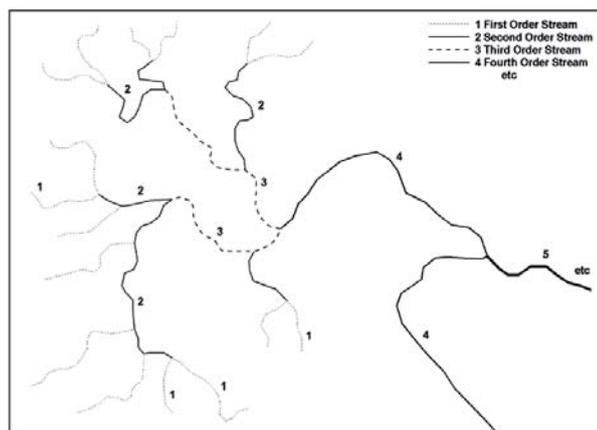


Figure 2: Diagrammatic view of stream ordering

When two streams of the same order join, the resulting watercourse becomes one stream order larger. If two streams of different orders join, the resultant stream order is that of the larger stream.



8.1.5 Glossary of terms

Aerial application is application by aircraft.

Application area is the area identified as proposed for clearing in the property vegetation management plan.

Assessable vegetation is vegetation in which clearing is assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009 and not listed under Schedule 24 of the Sustainable Planning Regulation 2009 as clearing that is not assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009.

Clearing to clear, for vegetation:

- (1) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining, but
- (2) does not include destroying standing vegetation by stock, or lopping a tree.

Discharge area is an area identified as a discharge area by an assessment process that is consistent with the document: *Salinity Management Handbook*, Queensland's Department of Natural Resources, 1997.

Dispersible is a soil that dissolves into its constituent particles—clay, silt, sand—when immersed in distilled water, determined after a period of 2 hours.

Essential habitat See the *Vegetation Management Act 1999*, section 20AC.

Editor's note: **Essential habitat**, for protected wildlife, means an area of vegetation shown on the regional ecosystem map or remnant map as remnant vegetation—

- (1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
- (2) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat database means a database, listing essential habitat factors for protected wildlife, certified by the chief executive of the *Vegetation Management Act 1999* as an essential habitat database.

Essential habitat factors are for protected wildlife, is a component of the wildlife's habitat, including for example, a landform, pollinator, regional ecosystem, soil and water, that is necessary or desirable for the wildlife at any stage of its lifecycle.

Essential habitat map see the *Vegetation Management Act 1999*

Editor's note: An essential habitat map is a map certified by the chief executive as the essential habitat map for the State and showing, for the State, areas the chief executive of the *Vegetation Management Act 1999* reasonably believes are areas of essential habitat or essential regrowth habitat for protected wildlife.

Essential management means clearing native vegetation:

- (1) for establishing or maintaining a necessary firebreak to protect infrastructure other than a fence, road or vehicular track, if the maximum width of the firebreak is equivalent to 1.5 times the height of the tallest vegetation adjacent to the infrastructure, or 20m, whichever is the greater, or
- (2) for establishing a necessary fire management line if the maximum width of the clearing for the fire management line is 10m, or
- (3) necessary to remove or reduce the imminent risk that the vegetation poses of serious personal injury or damage to infrastructure, or
- (4) by fire under the *Fire and Rescue Service Act 1990* to reduce hazardous fuel load, or
- (5) necessary to maintain infrastructure including any core airport infrastructure, buildings, fences, helipads, roads, stockyards, vehicular tracks, watering facilities and constructed drains other than contour banks, other than to source construction material; or
- (6) for maintaining a garden or orchard, other than clearing predominant canopy trees to maintain underplantings established within remnant vegetation, or
- (7) on land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber to repair existing infrastructure on the land, if:
 - (a) the infrastructure is in need of immediate repair
 - (b) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (c) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (8) by the owner on freehold land to source construction timber to maintain infrastructure on any land of the owner, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*; and
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Fodder harvesting see the *Vegetation Management Act 1999*

Editor's note: Fodder harvesting is the clearing of vegetation predominantly consisting of fodder species—

- (1) necessary to provide fodder for stock; and
- (2) carried out in a way that—
 - (a) conserves the vegetation in perpetuity; and
 - (b) conserves the regional ecosystem in which the vegetation is situated; and
 - (c) results in the woody biomass of the cleared vegetation remaining where it is cleared.

Fodder species are only those species listed in Table 8.

Groundwater is water occurring below the surface of the ground.

Gully erosion is the removal of soil by water creating large incised channels more than 30 centimetres in depth.

Hard-setting is a characteristic of soils in which a compact, hard, apedal condition forms on drying, but softens in wetting. When dry, the material is hard below any surface crust or flake that may occur, and is not disturbed or indented by pressure of the forefinger.

Immature trees are all woody plants that are greater than 2 metres high, other than mature trees.

Key resource area is an area identified as a key resource area in the *State Planning Policy*.

Land Zone 1 quaternary estuarine and marine deposits subject to periodic inundation by saline or brackish marine waters. Includes mangroves, salt pans, off-shore tidal flats and tidal beaches.

Land Zone 2 quaternary coastal dunes and beach ridges. Includes degraded dunes, sand plains and swales, lakes and swamps enclosed by dunes, as well as coral and sand cays.

Land Zone 3 quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo- estuarine deposits. Also includes estuarine plains currently under fresh water influence, inland lakes and associated dune systems (lunettes).

Land Zone 5 extensive, uniform near level or gently undulating Cainozoic plains with sandy or loamy soils. Includes dissected remnants of these surfaces. Also includes plains with sandy or loamy soils of uncertain origin, and plateau remnants with deep soils usually overlying duricrust.

Land Zone 7 cainozoic duricrusts formed on a variety of rock types, usually forming mesas or scarps. Includes exposed ferruginous, siliceous or mottled horizons and associated talus and colluvium, and remnants of these features, for example low stony rises on downs.

Maintain the current extent requires applicants to:

- (1) not clear the regional ecosystem, or
- (2) if subparagraph (1) is not reasonably practicable, ensure the structure and function of the regional ecosystem is maintained, or
- (3) if subparagraphs (1) and (2) are not reasonably practicable, provide an offset as a condition of the development approval.

Mapped remnant vegetation is vegetation shown on a regional ecosystem map or remnant map as remnant vegetation.

Mass movement is a landslide, earthflow, landslide, rock avalanche or soil creep.

Mature trees are trees and shrubs which are over the size limits specified in Table 9.

Mechanical clearing is the clearing of vegetation using machinery which disturbs the soil surface or uproots woody vegetation.

Most recent suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery— less than 10 years old—that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Non-native woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the non-native woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre (0.25 hectare) area.

Past suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery—greater than 10 years old—that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Pest eradication plan is a plan developed that aims to eradicate a plant or animal declared as a Class 1 or 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002* and that has been approved by both the chief executive that administers the *Land Protection (Pest and Stock Route Management) Act 2002* and the chief executive that administers the *Vegetation Management Act 1999*. For the purpose of this definition, Class 2 pests are outlier populations of Class 2 pests that occur outside of accepted state government containment lines.

Protected wildlife see the *Nature Conservation Act 1992*

Editor's note: Protected wildlife means native wildlife prescribed under the *Nature Conservation Act 1992* as:

- (1) Extinct in the wild wildlife, or
- (2) Endangered wildlife, or
- (3) Vulnerable wildlife,
- (4) Rare wildlife, or
- (5) Near threatened wildlife, or

- (6) Least concern wildlife.

Range of sizes are the size classes set out in Table 10.

Regional ecosystem description database is a database prepared by the Queensland Herbarium.

Editor's note: Regional ecosystem description database can be accessed at: www.dehp.qld.gov.au

Regional ecosystem map see the *Vegetation Management Act 1999*.

Editor's note: Regional ecosystem map is a map certified by the chief executive of the *Vegetation Management Act 1999* as the regional ecosystem map for a part of the State and showing for the part:

- (1) areas of remnant vegetation that are:
 - (a) an endangered regional ecosystem or
 - (b) an of concern regional ecosystem or
 - (c) a least concern regional ecosystem
- (2) the regional ecosystem number for each of the regional ecosystems mentioned in paragraph (1), and
- (3) areas the chief executive decides under section 20AH of the *Vegetation Management Act 1999* to show on the map as remnant vegetation.

Remnant map see the *Vegetation Management Act 1999*

Editor's note: A remnant map is a map certified by the chief executive of the *Vegetation Management Act 1999* as the remnant map for the part of the State to which the regional ecosystem map does not apply and showing for the part—

- (1) areas of remnant vegetation
- (2) areas the chief executive decides under section 20AH to show on the map as remnant vegetation.

Remnant vegetation see the *Vegetation Management Act 1999*

Editor's note: Remnant vegetation means vegetation, part of which forms the predominant canopy of the vegetation:

- (1) covering more than 50% of the undisturbed predominant canopy
- (2) averaging more than 70% of the vegetation's undisturbed height
- (3) composed of species characteristic of the vegetation's undisturbed predominant canopy.

Rill erosion is the removal of soil creating small channels up to 30 centimetres deep.

Root absorbed herbicides are herbicides that are taken up through the root systems of plants, such as those with hexazinone and tebuthiuron as active ingredients.

Routine management for clearing native vegetation on land, means the clearing of native vegetation:

- (1) to establish a necessary fence, road or vehicular track of the maximum width of clearing for the fence, road or track is 10m, or
- (2) to construct necessary built infrastructure, including core airport infrastructure, other than contour banks, fences, roads or vehicular tracks, if—
 - (a) the clearing is not to source construction timber
 - (b) the total extent of clearing is less than 2 hectares
 - (c) the total extent of the infrastructure is on less than 2hectares, or
- (3) by the owner on freehold land to source construction timber for establishing necessary infrastructure on any land of the owner, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (4) by the lessee of land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber, other than commercial timber, for establishing necessary infrastructure on the land, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Salinisation is the process of salts accumulating in soils or waters.

Scalding is:

- (1) a bare area formed when the surface soil is removed by wind or water erosion, exposing a more clayey subsoil which is relatively impermeable to water; or
- (2) where surface soil has been transformed into a hard-setting condition by exposure to raindrop impact or wind erosion.

Sheet erosion is the removal of a uniform layer of soil from the surface with generally no obvious channel created.

Significant community project see the *Vegetation Management Act 1999* section 10(5).

Editor's note: **Significant community projects** means projects the chief executive of the *Vegetation Management Act 1999* considers have an aesthetic, conservation, cultural or economic benefit to a local or regional community or the state including—

- (1) a project that serves an essential need of the community (for example essential infrastructure, schools) and
- (2) a project that significantly improves the community's access to services (for example hospitals, state or local government libraries or museums).

Significant wetland is:

- (1) In the Baffle, Barron, Black, Boyne, Burdekin, Calliope, Daintree, Don, Fitzroy, Haughton, Herbert, Johnstone, Mossman, Russell-Mulgrave, Murray, O'Connell, Pioneer, Plane, Proserpine, Ross, Shoalwater, Styx, Tully and Waterpark catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) shown as a Great Barrier Reef Wetland on the Vegetation Management Wetland Map, or
- (2) In all other catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) a regional ecosystem listed in Table 14 and the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like, on the most recent 1:250 000 Geoscience Australia topographic map of the area, or
 - (b) a Ramsar wetland.

Slope is a measure of the upward or downward incline of the land surface over any 30 metre length in the application area.

Stable soils are those soils listed in Table 12.

Stream order is a numerical ordering classification of each watercourse segment according to its position within a catchment, as shown in Figure 2. Stream orders are determined using the vegetation management watercourse map.

Unstable soils are—those soils listed in Table 12.

Vegetation management watercourse map is a map, as amended from time to time, held by the department administering the *Vegetation Management Act 1999*. This map includes the:

- (1) Vegetation Management Watercourse Map (1:25 000)
- (2) Vegetation Management Watercourse Map (1:100 000 and 1:250 000).

Editor's note: The vegetation management watercourse map is available in digital electronic format from the Department of Natural Resources and Mines website www.dnrm.qld.gov.au. Watercourses from the vegetation management watercourse map are also shown on the current *Vegetation Management Act 1999* Regional Ecosystem and Remnant Maps which are available for download at www.dehp.qld.gov.au

Very stable soils are those soils listed in Table 12.

Very unstable soils are those soils listed in Table 12.

Watercourse means the area of land:

- (1) between the high banks of a natural channel, whether artificially improved or not, in which water flows permanently or intermittently
- (2) that is shown:
 - (a) as a watercourse at a scale of 1:25 000 on the vegetation management watercourse map for the local government areas of Brisbane, Moreton Bay, Sunshine Coast, Gold Coast, Logan and Redland, excluding key resource areas; or

(b) as a watercourse at a scale of 1:100 000 on the vegetation management watercourse map for all other local government areas or in key resource areas.

Waterlogging is to soak or saturate with water.

Wetland is the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle, and that is:

- (1) a regional ecosystem listed in Table 11, or
- (2) the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like represented on the most recent, finest scale:
 - (a) Geoscience Australia topographic map or data that shows swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like, or
 - (b) topographic data that represents swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like
- (3) listed as an 'active' spring in the *Queensland Springs Database*.

Wind erosion is the movement of soil by wind.

Woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre area.

Abbreviations

DNRM – Department of Natural Resources and Mines

PMAV – Property Map of Assessable Vegetation

VMA – *Vegetation Management Act 1999*

8.2 Brigalow Belt and New England Tablelands bioregion state code

8.2.1 Purpose

The purpose of this code is to regulate the clearing of native vegetation within the Brigalow Belt and New England Tablelands bioregion to:

- (1) conserve remnant vegetation that is—
 - (a) an endangered regional ecosystem
 - (c) an of concern regional ecosystem
 - (d) a least concern regional ecosystem
- (2) conserve vegetation in declared areas
- (3) ensure clearing does not cause land degradation
- (4) prevent loss of biodiversity
- (5) maintain ecological processes
- (6) manage environmental effects of the clearing to achieve (1) through (5)
- (7) reduce greenhouse gas emissions.

8.2.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 8.2.1
Operational work	Table 8.2.2
Reconfiguring a lot	Table 8.2.1

- (2) Development that is a material change of use or reconfiguring a lot mentioned in column 1 of Table 8.2.1 must comply with the relevant provisions of Tables 8.2.3 to 8.2.11 mentioned in column 2 of Table 8.2.1.
- (3) Development that is operational work mentioned in column 1 of Table 8.2.2 must comply with the relevant provisions of Tables 8.2.4 to 8.2.11 mentioned in column 2 of Table 8.2.2.

Table 8.2.1: Development and relevant provisions of the code—material change of use and reconfiguring a lot

Development	Relevant provisions of the code
An application for a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.2.7 —Coordinated projects: PO1–PO10
An application for extractive purpose that is for a <u>significant community project</u>	Table 8.2.3 —General: PO1 Table 8.2.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10
An application for any other purpose that is for a <u>significant community project</u>	Table 8.2.3 —General: PO1 Table 8.2.6 —Public safety and infrastructure: PO2–PO10
An application for an extractive industry in a	Table 8.2.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10

Development	Relevant provisions of the code
<u>key resource area</u>	
An application for any other purpose where <u>clearing</u> of an endangered or of concern regional ecosystem will occur	Table 8.2.3 —General: PO1–PO2 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.2.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.2.6 —Public safety and infrastructure: PO2–PO10
An application for any other purpose where <u>clearing</u> of a least concern regional ecosystem will occur	Table 8.2.3 —General: PO1 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.2.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.2.6 —Public safety and infrastructure: PO2–PO10

Table 8.2.2: Development and relevant provisions of the code—operational work

Development	Relevant provisions of the code
Clearing of encroachment	Table 8.2.4 —Encroachment: PO1–PO7
For fodder harvesting	Table 8.2.5 —Fodder: PO1–PO12
Establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure (each relevant infrastructure), and the <u>clearing</u> for the relevant infrastructure cannot reasonably be avoided or minimised	Table 8.2.6 —Public safety and infrastructure: PO1–PO10
<u>Clearing</u> that is a natural and ordinary consequence of other assessable development for which a development approval was given under the repealed <i>Integrated Planning Act 1997</i> , or a development application was made under that Act, before 16 May 2003	Table 8.2.6 —Public safety and infrastructure: PO1–PO10
To ensure public safety	Table 8.2.6 —Public safety and infrastructure: PO1–PO10
A project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.2.7 —Coordinated projects: PO1–PO10
For thinning	Table 8.2.8 —Thinning: PO1–PO7
Necessary to control non-native plants or declared pests	Table 8.2.9 —Weed or pest management: PO1–PO7
For an extractive industry in a <u>key resource area</u>	Table 8.2.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10
For an extractive industry that is not in a <u>key resource area</u>	Table 8.2.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO1–PO10

Table 8.2.3: General

Performance outcomes	Acceptable outcomes
Clearing to avoid and minimise impacts	
PO1 To regulate the <u>clearing</u> of vegetation in a way that ensures the conservation of regional ecosystems, <u>clearing</u> only occurs where the applicant has demonstrated that the development has first avoided and minimised the impacts of development.	No acceptable outcome is prescribed.
Biodiversity and conservation outcomes	
PO2 <u>Clearing</u> may occur only where the material change of use or reconfiguring a lot can demonstrate that the level of conservation and biodiversity outcomes ensured by the development significantly exceeds the extent and value of the area proposed to be cleared. This can only be achieved by meeting the requirements of Appendix A: Vegetation offset policy.	No acceptable outcome is prescribed.

Table 8.2.4: Encroachment

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of <u>encroachment</u> only occurs in the regional ecosystems listed in Table 1.	No acceptable outcome is prescribed.
Mature trees	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> does not remove <u>mature trees</u> .	No acceptable outcome is prescribed.
Demonstrated encroachment	
PO3 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs in areas where there is <u>demonstrated encroachment</u> .	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
Wetlands	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>A04.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>OR</p> <p>A04.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Watercourses	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	<p>A05.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 2 of each high bank of each <u>watercourse</u>. <p>OR</p> <p>A05.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Soil erosion	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility— including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject of the application.</p>	<p>A06.1 <u>Mechanical clearing</u> only occurs on:</p> <ol style="list-style-type: none"> (1) <u>very stable soils</u> on a <u>slope</u> less than 15 per cent (2) <u>stable soils</u> on a <u>slope</u> less than 12 per cent (3) <u>unstable soils</u> on a <u>slope</u> less than 8 per cent (4) <u>very unstable soils</u> on a <u>slope</u> less than 5 per cent. <p>OR</p> <p>A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u>, and the Marlborough Plains subregion, <u>clearing</u> activities do not result in disturbance of acid</p>	<p>A07.1 In the <u>coastal subregions of the Brigalow Belt bioregion</u>, and the Marlborough Plains subregion, <u>clearing</u> in <u>land zone 1, land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Performance outcomes	Acceptable outcomes
sulfate soils or changes to the hydrology of the location that will either <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	OR AO7.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Table 8.2.5: Fodder

Performance outcomes	Acceptable outcomes
Limits to fodder harvesting	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO12, <u>clearing for fodder harvesting</u> : <ol style="list-style-type: none"> (1) occurs only in the following areas, as shown in Figure 1— <ol style="list-style-type: none"> (a) Southern Downs subregion, or (b) Weribone High subregion, or (c) Moonie Barwon Interfluvial subregion, or (d) Balonne-Culgoa Fan – IBRA Darling Riverine Plain subregion (2) is limited to the extent necessary to provide fodder for stock. 	No acceptable outcome is prescribed.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered and of concern regional ecosystems: <ol style="list-style-type: none"> (1) <u>fodder harvesting</u> does not occur in endangered regional ecosystems and of concern regional ecosystems. 	No acceptable outcome is prescribed.
Cleared vegetation	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, cleared vegetation must not be moved from where it falls.	No acceptable outcome is prescribed.
Conserving the fodder resource	
PO4 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity	AO4.1 The <u>fodder harvesting area</u> is no more than 30 per cent of the area of the lot(s) that are the subject of the application in any 12 month period.

Performance outcomes	Acceptable outcomes
and maintains ecological processes, a <u>fodder harvesting plan</u> is provided that demonstrates the conservation of <u>fodder species</u> in perpetuity.	
Wetlands	
PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	A05.1 <u>Fodder harvesting</u> does not occur: <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	A06.1 <u>Fodder harvesting</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2.
Connectivity	
PO7 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.	A07.1 Where <u>mapped remnant vegetation</u> adjoins the lot(s) that are the subject of the application, connectivity between all vegetation retained as a result of PO10 and the <u>mapped remnant vegetation</u> on adjacent lots must be maintained by corridors of <u>mapped remnant vegetation</u> that are no less than 200 metres wide.
Soil erosion	
PO8 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical 	A08.1 <u>Fodder harvesting</u> : <ol style="list-style-type: none"> (1) by <u>mechanical clearing</u> does not occur on a <u>slope</u> that exceeds 5 per cent (2) in strips only occurs across the <u>slope</u>.

Performance outcomes	Acceptable outcomes
or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	
Salinity	
PO9 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation of groundwater</u>, surface water or soil. 	AO9.1 <u>Fodder harvesting</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are regional ecosystems	
PO10 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, <u>fodder harvesting</u> activities: <ol style="list-style-type: none"> (1) retain at least 55 per cent of the predominant canopy cover of the regional ecosystem over each 300 metre x 300 metre (9 hectare) area (2) maintain the range of species of the regional ecosystem at the locality. 	AO10.1 <u>Fodder harvesting</u> : <ol style="list-style-type: none"> (1) occurs in: <ol style="list-style-type: none"> (a) strips that are no greater than 135 metres wide, and retains at least 5 hectares of vegetation in any 9 hectare area, or (b) blocks and retains at least 5 hectares of vegetation in any 9 hectare area (2) does not occur in the retained vegetation, and the area of retained vegetation must have an average canopy height of <u>fodder species</u> of greater than 4 metres over each 100 metre x 100 metre area, or not have been cleared in the previous 10 years (3) is limited to: <ol style="list-style-type: none"> (a) <u>fodder species</u> (b) other vegetation that is less than 4 metres high. The area of retained vegetation must have an average canopy height of <u>fodder species</u> of greater than 4 metres over each 100 metre x 100 metre area, or not have been cleared in the previous 10 years.
Essential habitat	
PO11 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	AO11.1 <u>Fodder harvesting</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Fodder species	
PO12 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes <u>fodder harvesting</u> consists predominantly of <u>fodder species</u> .	AO12.1 <u>Fodder harvesting</u> only occurs in the regional ecosystems listed in Table 3.

Table 8.2.6: Public safety and infrastructure

Performance outcomes	Acceptable outcomes
Limits to clearing for public safety and infrastructure	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary:</p> <ol style="list-style-type: none"> (1) for establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure, if there is no suitable alternative site for the fence, firebreak, road, track or infrastructure, or (2) as a natural and ordinary consequence of other assessable development for which a development approval as defined under the repealed <i>Integrated Planning Act 1997</i> was given, or a development application as defined under that Act was made, before 16 May 2003, or (3) to ensure public safety. 	<p>No acceptable outcome is prescribed.</p>
Wetlands	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO2.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>AND</p> <p>AO2.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.
Watercourses	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 2 of each high bank of each <u>watercourse</u>. <p>AND</p> <p>AO3.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to</p>

Performance outcomes	Acceptable outcomes
erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	provide: (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	<p>AO4.1 Where <u>clearing</u> is less than:</p> <ol style="list-style-type: none"> (1) 10 metres wide in the <u>coastal subregions of the Brigalow Belt bioregion</u> (2) 2 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (3) 25 metres wide in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion, or (4) 5 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion <p><u>clearing</u> does not:</p> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (3) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion (4) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion (5) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (6) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (7) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (8) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of mapped remnant vegetation</u> where the vegetation is:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.

Performance outcomes	Acceptable outcomes
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <p>(1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u></p> <p>(2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients</p> <p>within or outside the lot(s) that are the subject of the application.</p>	<p>A05.1 Mechanical <u>clearing</u> only occurs on:</p> <p>(1) <u>very stable soils</u> on a <u>slope</u> less than 15 per cent</p> <p>(2) <u>stable soils</u> on a <u>slope</u> less than 12 per cent</p> <p>(3) <u>unstable soils</u> on a <u>slope</u> less than 8 per cent</p> <p>(4) <u>very unstable soils</u> on a <u>slope</u> less than 5 per cent.</p>
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) waterlogging, or</p> <p>(2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or</p> <p>(2) 10 metres wide</p> <p><u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or</p> <p>(2) 50 metres wide</p> <p><u>clearing</u> does not occur:</p> <p>(a) in any <u>discharge area</u>, or</p> <p>(b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 4</p> <p>(2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 4, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of essential habitat.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 5 does not occur unless the <u>clearing</u> is less than:</p>

Performance outcomes	Acceptable outcomes
regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent of regional ecosystems</u> listed in Table 5.	(1) 10 metres wide, or (2) 2 hectares.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	AO10.1 In the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.

Table 8.2.7: Coordinated projects

Performance outcomes	Acceptable outcomes
Limits to clearing	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for the project, any associated ancillary works, and the operation of works that comprise a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26.	No acceptable outcome is prescribed.
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide: (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.	AO2.1 <u>Clearing</u> does not occur: (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u> .
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains	AO3.1 <u>Clearing</u> does not occur: (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 2 of each high bank of

Performance outcomes	Acceptable outcomes
<p>ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	<p>each <u>watercourse</u>.</p>
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	<p>AO4.1 Where <u>clearing</u> is less than:</p> <ol style="list-style-type: none"> (1) 10 metres wide in the <u>coastal subregions of the Brigalow Belt bioregion</u> (2) 2 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (3) 25 metres wide in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion, or (4) 5 hectares in the non-coastal subregions of the Brigalow Belt and the New England Tableland bioregion <p><u>clearing</u> does not:</p> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares in the <u>coastal subregions of the Brigalow Belt Bioregion</u> (3) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion (4) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion (5) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (6) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (7) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (8) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application. <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of mapped remnant vegetation</u> where the vegetation is:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem

Performance outcomes	Acceptable outcomes
	functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.
Soil erosion	
PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	A05.1 Mechanical clearing only occurs on: (1) <u>very stable soils</u> on a <u>slope</u> less than 15 per cent (2) <u>stable soils</u> on a <u>slope</u> less than 12 per cent (3) <u>unstable soils</u> on a <u>slope</u> less than 8 per cent (4) <u>very unstable soils</u> on a <u>slope</u> less than 5 per cent.
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: (1) <u>waterlogging</u> , or (2) the <u>salinisation</u> of <u>groundwater</u> , surface water or soil.	A06.1 Where <u>clearing</u> is less than: (1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u> . AND A06.2 Where <u>clearing</u> is less than: (1) 5 hectares, or (2) 50 metres wide <u>clearing</u> does not occur: (a) in any <u>discharge area</u> , or (b) within 200 metres of any <u>discharge area</u> . AND A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	A07.1 Clearing: (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 4 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 4, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.

Performance outcomes	Acceptable outcomes
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent of regional ecosystems listed in Table 5</u> .	A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 5 does not occur unless the <u>clearing</u> is less than: (1) 10 metres wide, or (2) 2 hectares.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	A010.1 In the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.

Table 8.2.8: Thinning

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of thinning does not occur in the regional ecosystems listed in Table 6, except where <u>clearing</u> is solely for removing native plants not indigenous to the bioregion.	No acceptable outcome is prescribed.
Vegetation density	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs where there is an increase of greater than 30 per cent in the cover or density of vegetation within the <u>application area</u> when compared with the cover or density of vegetation typical of the same regional ecosystem surrounding that locality.	A02.1 <u>Clearing</u> only occurs in areas where: (1) there is an increase of greater than 30 per cent in the <u>woody species crown cover</u> determined by comparison of the <u>most recent suitable imagery</u> of the <u>application area</u> with <u>past suitable imagery</u> of the <u>application area</u> , or (2) the <u>woody species crown cover</u> is greater than 70 per cent on <u>past suitable imagery</u> , and the stem density of <u>immature trees</u> is greater than 1000 stems per hectare, or (3) the total <u>application area</u> is less than 15 hectares, and there is a stem density of <u>immature trees</u> and woody plants greater than 250 stems in each 50 metre x 50 metre (0.25 hectare) area.

Performance outcomes	Acceptable outcomes
	OR A02.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Wetlands	
PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	A03.1 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. OR A03.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Watercourses	
PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	A04.1 <u>Mechanical clearing</u> does not occur in the regional ecosystems listed in Table 7. A04.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Soil erosion	
PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	A05.1 <u>Mechanical clearing</u> only occurs on: <ol style="list-style-type: none"> (1) <u>very stable soils</u> on a <u>slope</u> less than 15 per cent (2) <u>stable soils</u> on a <u>slope</u> less than 12 per cent (3) <u>unstable soils</u> on a <u>slope</u> less than 8 per cent (4) <u>very unstable soils</u> on a <u>slope</u> less than 5 per cent. OR A05.2 <u>Clearing</u> is limited to native plans that are not indigenous to the bioregion.
Conserving remnant vegetation that are regional ecosystems	
PO6 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and	A06.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not remove <u>mature trees</u>

Performance outcomes	Acceptable outcomes
maintains ecological processes, <u>clearing</u> activities: (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u> .	(2) does not remove <u>immature trees</u> below the relevant density in Table 8 (3) occurs in a configuration that evenly retains in each 50 metre x 50 metre area the <u>range of sizes</u> of each of the species, except for native plants not indigenous to the bioregion. OR A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Acid sulfate soils	
PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	A07.1 In the <u>coastal subregions of the Brigalow Belt bioregion</u> , and the Marlborough Plains subregion, <u>clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002. OR A07.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Table 8.2.9: Weed or pest management

Performance outcomes	Acceptable outcomes
Limits to clearing for weed or pest management	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO7, <u>clearing</u> is limited to the extent necessary to: (1) control non-native plants or declared pests, or (2) provide access for control of non-native plants or declared pests if no alternative route exists.	No acceptable outcome is prescribed.
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.	A02.1 <u>Clearing</u> and associated soil disturbance within: (1) any natural <u>wetland</u> (2) 100 metres from any natural <u>wetland</u> (3) any natural <u>significant wetland</u> (4) 200 metres from any natural <u>significant wetland</u> , occurs only: (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren

Performance outcomes	Acceptable outcomes
	<p>(b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists</p> <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Watercourses	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	<p>AO3.1 Clearing and associated soil disturbance within:</p> <ol style="list-style-type: none"> (1) any <u>watercourse</u> (2) the relevant distance stipulated in Table 2 of each high bank of each <u>watercourse</u> <p>occurs only:</p> <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Soil erosion	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject of the application.</p>	<p>AO4.1 Clearing and associated soil disturbance on:</p> <ol style="list-style-type: none"> (1) <u>very stable soils</u> on a <u>slope</u> greater than 15 per cent (2) <u>stable soils</u> on a <u>slope</u> greater than 12 per cent (3) <u>unstable soils</u> on a <u>slope</u> greater than 8 per cent (4) <u>very unstable soils</u> on a <u>slope</u> greater than 5 per cent <p>occurs only:</p> <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Conserving remnant vegetation that are regional ecosystems	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity</p>	<p>AO5.1 Clearing that is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <ol style="list-style-type: none"> (1) in accordance with a <u>pest eradication plan</u>

Performance outcomes	Acceptable outcomes
<p>and maintains ecological processes, <u>clearing</u> activities:</p> <p>(1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u></p> <p>(2) do not remove <u>mature trees</u>.</p>	<p>(2) to the extent necessary to provide access for the control of the class 1 or 2 pest if no alternative route exists.</p> <p>OR</p> <p>AO5.2 Where <u>clearing</u> is to control or provide access to a non-native or declared plant, <u>clearing</u>:</p> <p>(1) to control the declared or non-native plant—</p> <p>(a) must be in accordance with the limitations set out in Table 9</p> <p>(b) does not occur by the <u>aerial application of root absorbed herbicides</u></p> <p>(c) occurs only to the extent necessary to provide access for the control of the declared or non-native plant if no alternative route exists.</p> <p>OR</p> <p>AO5.3 <u>Clearing</u> to control a declared pest animal under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <p>(1) within a 3 metre radius around each hole of a rabbit warren</p> <p>(2) to the extent necessary to provide access to a rabbit warren if no alternative route exists.</p>
Requirements for dense regional ecosystems	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes, removal of canopy vegetation does not occur in regional ecosystems listed in Table 10.</p>	<p>AO6.1 <u>Clearing</u> and associated soil disturbance in regional ecosystems listed in Table 10 occurs only:</p> <p>(1) within a 1.5 metre radius from the base of the stem or individual non-native or declared plants or within a 3 metre radius around each hole of a rabbit warren</p> <p>(2) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists</p> <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u>, and the Marlborough Plains subregion, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or</p> <p>(2) mobilise acid or metals.</p>	<p>AO7.1 In the coastal subregions of the Brigalow Belt bioregion, and the Marlborough Plains subregion, <u>clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>

Table 8.2.10: Extractive industry in a key resource area code

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for:</p> <ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3). 	No acceptable outcome is prescribed.
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, conserves <u>remnant vegetation</u> that are regional ecosystems, maintains ecological processes and does not cause land degradation, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material will be extracted within the term of the development approval (3) cannot occur until all required permits are obtained. 	No acceptable outcome is prescribed.
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	No acceptable outcome is prescribed.
Connectivity	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	No acceptable outcome is prescribed.
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	No acceptable outcome is prescribed.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	No acceptable outcome is prescribed.
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and conserves <u>remnant vegetation</u> that are regional ecosystems, <u>maintain the current extent of regional ecosystems</u> listed in Table 5.	No acceptable outcome is prescribed.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	No acceptable outcome is prescribed.

Table 8.2.11: Extractive industry in an area that is not a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for one or more of the following: (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3).	No acceptable outcome is prescribed.
Clearing is staged	
PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> :	No acceptable outcome is prescribed

Performance outcomes	Acceptable outcomes
<ul style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material will be extracted within the term of the permit (3) cannot occur until all required permits are obtained. 	
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ul style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ul style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ul style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	<p>AO4 <u>Clearing</u> does not occur:</p> <ul style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 2 from each high bank of each <u>watercourse</u>.
Connectivity	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are:</p> <ul style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent 	<p>AO5.1 Where <u>clearing</u> is less than:</p> <ul style="list-style-type: none"> (1) 10 metres wide in the <u>coastal subregions of the Brigalow Belt bioregion</u>, or (2) 2 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u>, or (3) 25 metres wide in the non-coastal subregions of the Brigalow Belt and the New England Tableland bioregion, or (4) 5 hectares in the non-coastal subregions of the Brigalow Belt and the New England Tableland bioregion <p><u>clearing</u> does not:</p> <ul style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres.

Performance outcomes	Acceptable outcomes
properties.	OR A05.2 <u>Clearing</u> does not: <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares in the <u>coastal subregions of the Brigalow Belt bioregion</u> (3) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares in the non- coastal subregions of the Brigalow Belt and New England Tableland bioregion (4) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares in the non-coastal subregions of the Brigalow Belt and New England Tableland bioregion (5) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (6) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (7) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (8) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.
Salinity	
P06 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	A06.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u> . OR A06.2 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
P07 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	A07.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 4 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 4, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.
Essential habitat	
P08 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of essential habitat.	A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Conservation status thresholds	
P09 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are regional ecosystems and prevents the loss of	A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 5 does not occur unless the <u>clearing</u> is less than 2 hectares.

Performance outcomes	Acceptable outcomes
biodiversity <u>maintain the current extent of regional ecosystems listed in Table 5.</u>	
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing of vegetation</u> in a way that does not cause land degradation and maintains ecological processes in the <u>coastal subregions of the Brigalow Belt bioregion</u>, and the Marlborough Plains subregion, <u>clearing activities</u> do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	<p>AO10.1 In the <u>coastal subregions of the Brigalow Belt bioregion</u>, and the Marlborough Plains subregion, <u>clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

8.2.3 Reference tables

Table 1

Regional ecosystems which may be cleared for encroachment
4.9.7 <i>Astrebla</i> spp. grassland wooded with <i>Acacia tephрина</i> ± <i>A. cambagei</i> and <i>Atalaya hemiglauca</i> on Cretaceous sediments
11.4.11 <i>Dichanthium sericeum</i> , <i>Astrebla</i> spp. and <i>Acacia harpophylla</i> , <i>Eucalyptus coolabah</i> on Cainozoic clay plains
11.8.11 <i>Dichanthium sericeum</i> grassland on Cainozoic igneous rocks
11.9.3 <i>Dichanthium</i> spp., <i>Astrebla</i> spp. grassland on fine-grained sedimentary rocks

Table 2

Distance from the high banks of watercourses in which clearing cannot occur		
Stream order	Subregion	Distance from each high bank
1 or 2	<u>Coastal subregions of the Brigalow Belt bioregion</u>	25 metres
1 or 2	<u>Non-coastal subregions of the Brigalow Belt bioregion and all subregions of the New England Tableland bioregion</u>	50 metres
3 or 4	<u>Coastal subregions of the Brigalow Belt bioregion</u>	50 metres
3 or 4	<u>Non-coastal subregions of the Brigalow Belt bioregion and all subregions of the New England Tableland bioregion</u>	100 metres
5 or greater	<u>Coastal subregions of the Brigalow Belt bioregion</u>	100 metres
5 or greater	<u>Non-coastal subregions of the Brigalow Belt bioregion and all subregions of the New England Tableland bioregion</u>	200 metres

Table 3

Regional ecosystems which may be cleared for fodder harvesting
6.5.1 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> , <i>E. melanophloia</i> open forest on undulating lowlands
6.5.7 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>E. intertexta</i> low woodland on run-on areas
6.5.9 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> shrubby low woodland on Quaternary sediments

6.5.13 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> ± <i>Brachychiton populneus</i> low woodland on sand plains
6.5.18 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> ± <i>Eremophila mitchellii</i> low open woodland on plains
6.7.11 <i>Acacia aneura</i> ± <i>Eucalyptus cambageana</i> ± <i>Corymbia thozetiana</i> ± <i>Eremophila latrobei</i> tall shrubland on residuals
6.7.12 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> ± <i>Eremophila gilesii</i> tall shrubland on residuals

Table 4**Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems**

8.3.8 <i>Syncarpia glomulifera</i> , <i>Eucalyptus portuensis</i> , <i>Corymbia intermedia</i> open forest on sandy creek flats and granite outwash
8.12.29 <i>Lophostemon confertus</i> ± <i>Acacia leptostachya</i> ± <i>Acacia aulacocarpa</i> ± <i>Corymbia dallachiana</i> ± <i>Eucalyptus</i> spp. ± <i>Melaleuca viridiflora</i> ± <i>Allocasuarina littoralis</i> shrubland to open forest on exposed hillslopes of islands with abundant rock at the surface, on Mesozoic to Proterozoic igneous rocks, and Tertiary acid to intermediate volcanics
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.4.1 Semi-evergreen vine thicket ± <i>Casuarina cristata</i> on Cainozoic clay plains
11.4.6 <i>Acacia cambagei</i> woodland on Cainozoic clay plains
11.5.11 <i>Acacia leptostachya</i> shrubland on Cainozoic sand plains/remnant surfaces
11.5.18 <i>Micromyrtus capricornia</i> shrubland on Cainozoic sand plains/remnant surfaces
11.8.7 Shrubland (heath) on Cainozoic igneous rocks
11.8.13 Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks
11.9.4 Semi-evergreen vine thicket or <i>Acacia harpophylla</i> with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.21 Semi-evergreen vine thicket on serpentinite
11.12.18 Montane shrubland on igneous rocks
11.12.21 <i>Acacia harpophylla</i> open forest on igneous rocks. Colluvial lower slopes
12.3.1 Gallery rainforest (notophyll vine forest) on alluvial plains
12.5.6 <i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> , <i>E. microcorys</i> and/or <i>E. pilularis</i> open forest on remnant Tertiary surfaces. Usually deep red soils
12.8.8 <i>Eucalyptus saligna</i> or <i>E. grandis</i> tall open forest on Cainozoic igneous rocks
12.8.12 <i>Eucalyptus obliqua</i> tall open forest on Cainozoic igneous rocks
12.8.13 Araucarian complex microphyll vine forest on Cainozoic igneous rocks
12.11.4 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics
12.11.12 Araucarian complex microphyll vine forest on metamorphics ± interbedded volcanics. Northern half of bioregion
12.12.10 Shrubland on rocky peaks on Mesozoic to Proterozoic igneous rocks
13.11.2 <i>Eucalyptus laevopinea</i> open forest on metamorphics
13.11.7 Low microphyll vine forest on metamorphics
13.12.6 Shrubland on igneous rocks

Table 5

Regional ecosystems that are at risk of the remnant status falling below 30% of its pre-clearing extent, or having a remnant extent of less than 10 000 hectares

6.3.8 <i>Eucalyptus largiflorens</i> ± <i>Acacia cambagei</i> woodland on alluvium
6.5.2 <i>Eucalyptus populnea</i> , <i>Acacia aneura</i> and/or <i>E. melanophloia</i> woodland on Quaternary sediments
6.5.3 <i>Eucalyptus populnea</i> , <i>Acacia aneura</i> ± <i>Eremophila mitchellii</i> woodland within <i>A. aneura</i> communities
6.5.9 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> shrubby low woodland on Quaternary sediments
6.7.2 <i>Acacia microsperma</i> open forest on upper and foot slopes
8.1.2 Samphire open forbland to isolated clumps of forbs on saltpans and plains adjacent to mangroves
9.11.8 Semi-deciduous vine thicket on limestone rock outcrops
10.3.11 <i>Corymbia citriodora</i> or <i>C. leichhardtii</i> woodland to tall woodland on alluvium in valleys
11.3.5 <i>Acacia cambagei</i> woodland on alluvial plains
11.4.11 <i>Dichanthium sericeum</i> , <i>Astrebla</i> spp. and patchy <i>Acacia harpophylla</i> , <i>Eucalyptus coolabah</i> on Cainozoic clay plains
11.5.5 <i>Eucalyptus melanophloia</i> , <i>Callitris glaucophylla</i> woodland on Cainozoic sand plains- remnant surfaces. Deep red sands
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains-remnant
11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks. Steep hillsides
11.9.8 <i>Macropteranthes leichhardtii</i> thicket on Cainozoic fine-grained sedimentary rocks
11.11.20 <i>Eucalyptus platyphylla</i> woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands
12.8.1 <i>Eucalyptus campanulata</i> tall open forest on Cainozoic igneous rocks
12.8.9 <i>Lophostemon confertus</i> open forest on Cainozoic igneous rocks
12.12.7 <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks
12.12.24 <i>Angophora leiocarpa</i> , <i>Eucalyptus crebra</i> woodland on Mesozoic to Proterozoic igneous rocks
13.11.1 <i>Eucalyptus youmanii</i> , <i>E. dealbata</i> , <i>E. caleyi</i> , <i>Callitris endlicheri</i> woodland on metamorphics
13.12.1 <i>Eucalyptus campanulata</i> open forest on igneous rocks

Table 6

Regional ecosystems where thinning cannot occur

4.9.15 <i>Acacia harpophylla</i> tall shrubland with scattered emergent <i>Atalaya hemiglauca</i> ± <i>Eucalyptus</i> spp. on Cretaceous sediments
4.9.17 <i>Acacia harpophylla</i> ± <i>A. cambagei</i> low woodland on undulating clay plains
6.3.25 <i>Acacia harpophylla</i> and/or <i>A. cambagei</i> low woodland to woodland on alluvial plains
6.4.1 <i>Acacia cambagei</i> ± <i>Casuarina cristata</i> low open forest on clay plains
6.4.2 <i>Casuarina cristata</i> ± <i>Acacia harpophylla</i> open forest on clay plains
6.7.1 <i>Acacia catenulata</i> ± <i>A. shirleyi</i> ± <i>Eucalyptus</i> spp. open scrub on crests and slopes
6.7.2 <i>Acacia microsperma</i> open forest on upper and foot slopes
6.7.5 <i>Eucalyptus thozetiana</i> or <i>E. cambageana</i> , <i>Acacia harpophylla</i> woodland on scarps
7.1.1 Mangrove forests on coastal lowland saline alluvial soils
7.1.2 Salt meadow/ herbfield on coastal lowland hyper-saline alluvial soils
7.12.11 Notophyll semi-evergreen vine forest on moist to dry granite foothills and uplands
7.12.16 Simple notophyll vine forest on cloudy wet granite and rhyolite uplands and highlands
8.1.1 Mangrove vegetation of marine clay plains and estuaries

Regional ecosystems where thinning cannot occur
8.1.2 Samphire open forland to isolated clumps of forbs on salt pans and plains adjacent to mangroves
8.1.5 <i>Melaleuca</i> spp. and/or <i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> woodland to open forest with a ground stratum of salt tolerant grasses and sedges, usually in a narrow zone
8.2.2 Microphyll vine forest on coastal dunes
8.2.4 Wet heath complex on coastal sand plains and depressions derived from coastal dunes
8.3.1 Semi-deciduous notophyll/mesophyll vine forest fringing watercourses on alluvial plains
8.11.2 Notophyll microphyll vine forest ± <i>Araucaria cunninghamii</i> on low ranges on Permian sediments ± volcanics
8.12.3 Notophyll rainforest/microphyll rainforest often with <i>Argyrodendron polyandrum</i> and <i>Paraserianthes toona</i> , ± <i>Araucaria cunninghamii</i> , on low to medium ranges on Mesozoic to Proterozoic igneous rocks
8.12.10 <i>Lophostemon confertus</i> ± <i>Leptospermum neglectum</i> ± <i>Hibiscus divaricatus</i> ± <i>Callistemon pearsonii</i> ± <i>Bertya sharpeana</i> shrubland or heathland on exposed plateaus of Cretaceous-Tertiary acid to intermediate volcanics, and Mesozoic to Proterozoic igneous rocks
8.12.11 Semi-deciduous microphyll vine forest/thicket with emergent <i>Araucaria cunninghamii</i> in coastal areas including islands, on Mesozoic to Proterozoic igneous rocks and Tertiary acid to intermediate volcanics and granite
8.12.16 Low microphyll vine forest to semi-evergreen vine thicket on drier sub coastal hills on Mesozoic to Proterozoic igneous rocks
9.11.8 Semi-deciduous vine thicket on limestone rock outcrops
9.12.8 Semi-evergreen vine thicket on rocky outcrops and shallow soils of acid volcanic rocks
9.12.34 Semi-evergreen vine thicket with <i>Araucaria cunninghamii</i> on steep hills on acid and intermediate volcanic rocks
10.3.3 <i>Acacia harpophylla</i> and/or <i>Eucalyptus cambageana</i> low open woodland to open woodland on alluvial plains
10.3.4 <i>Acacia cambagei</i> low open woodland to low woodland on alluvial plains
10.7.3 <i>Acacia shirleyi</i> woodland or <i>A. catenulata</i> low woodland at margins of plateaus
10.7.7 <i>Melaleuca</i> spp. and/or <i>Acacia leptostachya</i> shrubland on ferricrete (eastern)
11.1.1 <i>Sporobolus virginicus</i> grassland on marine clay plains
11.1.2 Samphire forland on marine clay plains
11.1.3 Sedgelands on marine clay plains
11.1.4 Mangrove forest/woodland on marine clay plains
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.1 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on alluvial plains
11.3.5 <i>Acacia cambagei</i> woodland on alluvial plains
11.3.8 <i>Acacia argyrodendron</i> woodland on alluvial plains
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.3.17 <i>Eucalyptus populnea</i> woodland with <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> on alluvial plains
11.3.34 <i>Acacia tephрина</i> woodland on alluvial plains
11.4.1 Semi-evergreen vine thicket ± <i>Casuarina cristata</i> on Cainozoic clay plains
11.4.3 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains
11.4.5 <i>Acacia argyrodendron</i> woodland on Cainozoic clay plains
11.4.6 <i>Acacia cambagei</i> woodland on Cainozoic clay plains
11.4.7 Open forest to woodland of <i>Eucalyptus populnea</i> with <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> on Cainozoic clay plains
11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains
11.4.9 <i>Acacia harpophylla</i> shrubby open forest to woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains

Regional ecosystems where thinning cannot occur

11.4.10 Eucalyptus populnea or E. pilligaensis, Acacia harpophylla, Casuarina cristata open forest to woodland on margins of Cainozoic clay plains
11.5.10 Melaleuca tamariscina shrubland on Cainozoic sand plains/remnant surfaces
11.5.11 Acacia leptostachya shrubland on Cainozoic sand plains/remnant surfaces
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.5.16 Acacia harpophylla and/or Casuarina cristata open forest in depressions on Cainozoic sand plains/remnant surfaces
11.5.18 Micromyrtus capricornia shrubland on Cainozoic sand plains/remnant surfaces
11.7.1 Acacia harpophylla and/or Casuarina cristata and Eucalyptus thozetiana or E. microcarpa woodland on lower scarp slopes on Cainozoic lateritic duricrust
11.7.2 Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone
11.7.5 Shrubland on natural scalds on deeply weathered coarse-grained sedimentary rocks
11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks
11.8.6 Macropteranthes leichhardtii thicket on Cainozoic igneous rocks
11.8.7 Shrubland (heath) on Cainozoic igneous rocks.
11.8.13 Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks
11.9.1 Acacia harpophylla-Eucalyptus cambageana open forest to woodland on fine-grained sedimentary rocks
11.9.4 Semi-evergreen vine thicket or Acacia harpophylla with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.9.5 Acacia harpophylla and/or Casuarina cristata open forest on fine-grained sedimentary rocks
11.9.6 Acacia melvillei ± A. harpophylla open forest on fine-grained sedimentary rocks
11.9.8 Macropteranthes leichhardtii thicket on fine-grained sedimentary rocks
11.9.11 Acacia harpophylla shrubland on fine-grained sedimentary rocks
11.9.12 Dichanthium sericeum grassland with clumps of Acacia harpophylla on fine-grained sedimentary rocks
11.10.3 Acacia catenulata or A. shirleyi open forest on Cainozoic coarse-grained sedimentary rocks. Crests and scarps
11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks
11.11.2 Acacia shirleyi or A. catenulata low open forest on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.5 Microphyll vine forest ± Araucaria cunninghamii on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.13 Acacia harpophylla or A. argyrodendron, Terminalia oblongata low open forest on deformed and metamorphosed sediments and interbedded volcanics
11.11.14 Acacia harpophylla open forest on deformed and metamorphosed sediments and interbedded volcanics
11.11.16 Eucalyptus cambageana, Acacia harpophylla woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.19 Eucalyptus thozetiana, Acacia harpophylla woodland on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.21 Semi-evergreen vine thicket on serpentinite
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
11.12.12 Araucaria cunninghamii woodland on igneous rocks (boulder-strewn coastal hills)
11.12.18 Montane shrubland on igneous rocks.
11.12.21 Acacia harpophylla open forest on igneous rocks. Colluvial lower slopes

Regional ecosystems where thinning cannot occur
12.1.2 Saltpan vegetation including grassland, herbland and sedgeland on marine clay plains
12.1.3 Mangrove shrubland to low closed forest on marine clay plains and estuaries
12.3.1 Gallery rainforest (notophyll vine forest) on alluvial plains
12.8.4 Complex notophyll vine forest with <i>Araucaria</i> spp. on Cainozoic igneous rocks
12.8.5 Complex notophyll vine forest on Cainozoic igneous rocks. Altitude usually >600 metres
12.8.13 Araucarian complex microphyll vine forest on Cainozoic igneous rocks
12.8.19 Montane shrubland on Cainozoic igneous rocks
12.8.21 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on Cainozoic igneous rocks. Southern half of bioregion
12.8.23 <i>Acacia harpophylla</i> open forest on Cainozoic igneous rocks
12.9-10.6 <i>Acacia harpophylla</i> open forest on sedimentary rocks
12.9-10.15 Semi-evergreen vine thicket with <i>Brachychiton rupestris</i> on sedimentary rocks
12.9-10.16 Araucarian microphyll to notophyll vine forest on sedimentary rocks
12.11.4 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics
12.11.11 Araucarian microphyll vine forest on metamorphics ± interbedded volcanics. Southern half of bioregion
12.11.12 Araucarian complex microphyll vine forest on metamorphics ± interbedded volcanics. Northern half of bioregion
12.12.10 Shrubland on rocky peaks on Mesozoic to Proterozoic igneous rocks
12.12.13 Araucarian complex microphyll to notophyll vine forest on Mesozoic to Proterozoic igneous rocks
12.12.18 Semi-evergreen vine thicket on Mesozoic to Proterozoic igneous rocks. North of bioregion
12.12.19 Vegetation complex of rocky headlands on Mesozoic to Proterozoic igneous rocks
12.12.26 <i>Acacia harpophylla</i> open forest on Mesozoic to Proterozoic igneous rock
13.11.7 Low microphyll vine forest on metamorphics
13.12.6 Shrubland on igneous rocks

Table 7

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur
4.3.4 <i>Eucalyptus coolabah</i> open woodland on drainage lines/plains
6.3.1 <i>Eucalyptus camaldulensis</i> woodland on alluvium within <i>Acacia aneura</i> associations
6.3.3 <i>Eucalyptus camaldulensis</i> ± <i>E. coolabah</i> ± <i>E. populnea</i> , <i>Acacia stenophylla</i> woodland on alluvium
6.3.8 <i>Eucalyptus largiflorens</i> ± <i>Acacia cambagei</i> woodland on alluvium
6.3.12 <i>Acacia omalophylla</i> ± <i>A. microsperma</i> ± <i>Eucalyptus coolabah</i> tall open shrubland on alluvium
7.3.26 <i>Casuarina cunninghamiana</i> riparian open forest
8.2.7 <i>Melaleuca</i> spp. and/or <i>Lophostemon suaveolens</i> and/or <i>Eucalyptus robusta</i> open woodland to open forest in wetlands associated with parabolic dunes
8.3.3 <i>Melaleuca leucadendra</i> or <i>M. fluviatilis</i> ± <i>Casuarina cunninghamiana</i> open forest to woodland, fringing watercourses
8.3.4 Freshwater wetlands with permanent water and aquatic vegetation including <i>Phragmites australis</i> , <i>Nymphaea gigantea</i> , <i>Nymphoides indica</i> , <i>Eleocharis</i> spp., <i>Cyperus</i> spp., and <i>Juncus</i> spp.
8.3.8 <i>Syncarpia glomulifera</i> , <i>Eucalyptus portuensis</i> , <i>Corymbia intermedia</i> open forest on sandy creek flats and granite outwash
8.3.13 <i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> and/or <i>Melaleuca</i> spp. open woodland to open forest on alluvial and old marine plains, often adjacent to estuarine areas
9.3.1 <i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> ± <i>Casuarina cunninghamiana</i> ± <i>Melaleuca</i> spp. fringing woodland on channels and levees. Generally on eastern flowing rivers

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur
10.3.13 Melaleuca fluviatilis and/or Eucalyptus camaldulensis woodland along watercourses
10.3.14 Eucalyptus camaldulensis and/or E. coolabah open woodland along channels and on floodplains
10.3.15 Grasslands, sedgelands, ephemeral herblands and open woodland in depressions on sand plains
11.2.4 Lagoons in coastal dune swales
11.3.15 Eucalyptus coolabah, Acacia stenophylla, Muehlenbeckia florulenta fringing woodland on alluvial plains
11.3.22 Springs associated with recent alluvia, but also including those on fine-grained sedimentary rocks, basalt, ancient alluvia and metamorphic rocks
11.3.25 Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines
11.3.27 Freshwater wetlands
11.3.37 Eucalyptus coolabah fringing woodland on alluvial plains
11.3.38 Eucalyptus tereticornis, Melaleuca viridiflora, Corymbia tessellaris and Eucalyptus fibrosa subsp. (Glen Geddes) tall woodland with a grassy ground layer. Occurs on alluvial plains and broad drainage lines derived from serpentinite
11.5.17 Eucalyptus tereticornis woodland in depressions on Cainozoic sand plains/remnant surfaces
11.10.14 Springs associated with sandstone
12.3.5 Melaleuca quinquenervia open forest on coastal alluvial plains
12.3.7 Eucalyptus tereticornis, Callistemon viminalis, Casuarina cunninghamiana fringing fores
12.3.9 Eucalyptus nobilis open forest on alluvial plains
13.3.5 Eucalyptus camaldulensis fringing open forest

Table 8

Immature tree densities required to be retained	
Structure (the structure category of each regional ecosystem is specified in the regional ecosystem description database)	Density of immature trees that must be retained for each 40 metres x 50 metre (0.25 hectare) area
Mid-dense	125
Sparse	75
Very sparse	50

Table 9

Clearing native vegetation for non-native woody species control	
Percentage of area covered by the non-native plant or declared weed	Clearing limitations
<10% <u>non-native woody species crown cover</u>	No <u>clearing</u> of native vegetation.
10–50% <u>non-native woody species crown cover</u>	<u>Clearing</u> — (a) of <u>mature trees</u> of native species does not occur (b) retains the densities of <u>immature trees</u> listed in Table 8.
>50% <u>non-native woody species crown cover</u>	<u>Clearing</u> of <u>mature trees</u> of native species does not occur.

Table 10

Dense regional ecosystems
2.1.2 Tidal low coastal rises of shells, sand or mud, and associated gutters, usually with mangroves
2.1.3 Tidal channels and associated levees, usually with mangroves
7.1.1 Mangrove low closed forest to open shrubland
8.12.29 <i>Lophostemon confertus</i> ± <i>Acacia leptostachya</i> ± <i>Acacia aulacocarpa</i> ± <i>Corymbia dallachiana</i> ± <i>Eucalyptus</i> spp. ± <i>Melaleuca viridiflora</i> ± <i>Allocasuarina littoralis</i> shrubland to open forest on exposed hillslopes of islands with abundant rock at the surface, on Mesozoic to Proterozoic igneous rocks, and Tertiary acid to intermediate volcanics
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.4.1 Semi-evergreen vine thicket ± <i>Casuarina cristata</i> on Cainozoic clay plains
11.4.6 <i>Acacia cambagei</i> woodland on Cainozoic clay plains
11.5.11 <i>Acacia leptostachya</i> shrubland on Cainozoic sand plains/remnant surfaces
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.5.18 <i>Micromyrtus capricornia</i> shrubland on Cainozoic sand plains/remnant surfaces
11.7.5 Shrubland on natural scalds on deeply weathered coarse-grained sedimentary rocks
11.8.3 Semi-evergreen vine thicket on Cainozoic igneous rocks.
11.8.6 <i>Macropteranthes leichhardtii</i> thicket on Cainozoic igneous rocks
11.8.7 Shrubland (heath) on Cainozoic igneous rocks.
11.8.13 Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks
11.9.4 Semi-evergreen vine thicket or <i>Acacia harpophylla</i> with a semi-evergreen vine thicket understorey on fine grained sedimentary rocks
11.9.8 <i>Macropteranthes leichhardtii</i> thicket on fine-grained sedimentary rocks
11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.18 Semi-evergreen vine thicket on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.21 Semi-evergreen vine thicket on serpentinite
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
11.12.18 Montane shrubland on igneous rocks
12.1.3 Mangrove shrubland to low closed forest on marine clay plains and estuaries
12.3.1 Gallery rainforest (notophyll vine forest) on alluvial plains
12.8.13 Araucarian complex microphyll vine forest on Cainozoic igneous rocks
12.11.4 Semi-evergreen vine thicket on metamorphics ± interbedded volcanics
12.11.11 Araucarian microphyll vine forest on metamorphics ± interbedded volcanics. Southern half of bioregion
12.11.12 Araucarian complex microphyll vine forest on metamorphics ± interbedded volcanics. Northern half of bioregion
12.12.10 Shrubland on rocky peaks on Mesozoic to Proterozoic igneous rocks
13.11.7 Low microphyll vine forest on metamorphics
13.12.6 Shrubland on igneous rocks

Table 11

Fodder species	
Common name	Scientific name
Mulga	<i>Acacia aneura</i>
Ironwood	<i>Acacia exeisa</i>
Myall	<i>Acacia pendula</i>
Red ash	<i>Alphitonia excelsa</i>
Leopardwood	<i>Flindersia maculosa</i>
Wilga, Tree wilga	<i>Geijera parviflora</i>
Umbrella mulga	<i>Acacia cibaria</i> (<i>Acacia brachystachya</i>)
Bastard (turpentine) mulga	<i>Acacia stowardii</i>

Table 12

Mature tree size limits	
Genus	Diameter at 1.3 metres high (add the diameter of all stems for multi-stemmed plants)
<i>Eucalyptus</i> , <i>Corymbia</i> , <i>Angophora</i> , <i>Lophostemon</i>	>30 centimetres
Genera other than <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Angophora</i> and <i>Lophostemon</i>	>20 centimetres

Table 13

Size classes	
Class	Diameter at breast height over bark
1	<5 centimetres
2	5–10 centimetres
3	>10–20 centimetres
4	>20–40 centimetres

Table 14

Wetland regional ecosystems
6.3.12 <i>Acacia omalophylla</i> ± <i>A. microsperma</i> ± <i>Eucalyptus coolabah</i> tall open shrubland on alluvium
8.2.7 <i>Melaleuca</i> spp. and/or <i>Lophostemon suaveolens</i> and/or <i>Eucalyptus robusta</i> open woodland to open forest in wetlands associated with parabolic dunes
8.3.4 Freshwater wetlands with permanent water and aquatic vegetation including <i>Phragmites australis</i> , <i>Nymphaea gigantea</i> , <i>Nymphoides indica</i> , <i>Eleocharis</i> spp., <i>Cyperus</i> spp., and <i>Juncus</i> spp.
8.3.13 <i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> and/or <i>Melaleuca</i> spp. open woodland to open forest on alluvial and old marine plains, often adjacent to estuarine areas
11.2.4 Lagoons in coastal dune swales
11.3.22 Springs associated with recent alluvia, but also including those on fine-grained sedimentary rocks, basalt, ancient alluvia and metamorphic rocks
11.3.27 Freshwater wetlands

Wetland regional ecosystems
11.5.17 Eucalyptus tereticornis woodland in depressions on Cainozoic sand plains/remnant surfaces
11.10.14 Springs associated with sandstone
12.3.5 Melaleuca quinquenervia open forest on coastal alluvial plains
13.3.6 Sedgeland on igneous rocks

Table 15

Soil stability class and soils characteristics	
Soil stability class*	Soil characteristics
Very stable	Soils that are Ferrosols (Krasnozems, Euchrozems and Xanthozems)
Stable	Soils other than very stable soils, unstable soils, or very unstable soils
Unstable	Soils that are Chromosols, Hydrosols, Kurosols, and Sodosols that do not have a <u>hard-setting</u> fine sandy loam to silty clay loam surface (Soloths, Solodic soils and Solonchaks) OR Soils with a <u>dispersible</u> layer located between 25 and 45 centimetres deep OR Soils less than 45 centimetres deep
Very unstable	Soils that area Sodosols with <u>hard-setting</u> , fine sandy loam to silty clay loam surfaces (solodic soils, solodized solonetz and solonetz) OR Soils with a dispersible layer located less than 25 centimetres deep OR Soils less than 25 centimetres deep

*Where a soil meets the characteristics of two soil stability classes then the less stable class must be used.

8.2.4 Figures

Figure 1: Location of Brigalow Belt and Tablelands bioregion

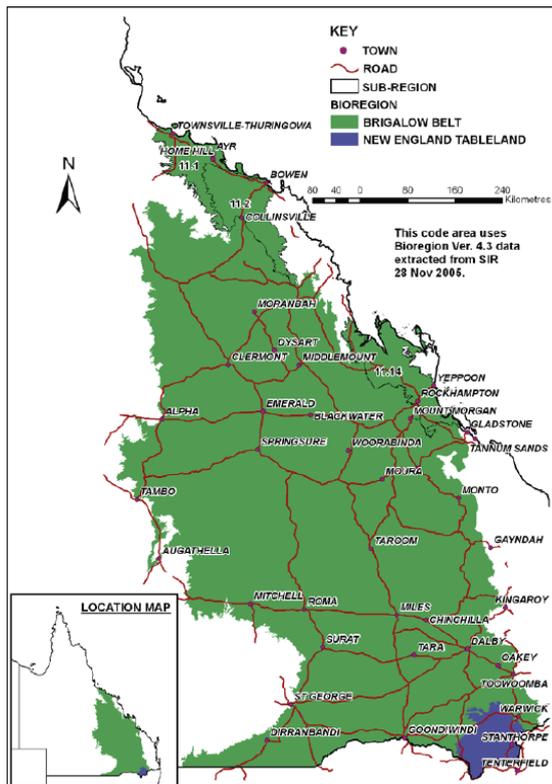
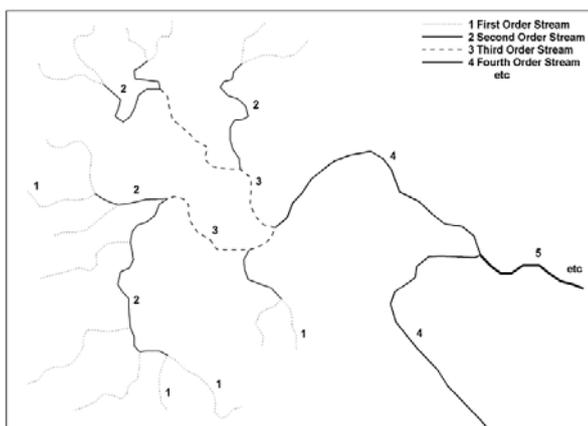


Figure 2: Diagrammatic view of stream ordering

When two streams of the same order join, the resulting watercourse becomes one stream order larger. If two streams of different orders join, the resultant stream order is that of the larger streams.



8.2.5 Glossary of terms

Aerial application is application by aircraft.

Application area is the area identified as proposed for clearing in the property vegetation management plan.

Assessable vegetation is vegetation in which clearing is assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009 and not listed under Schedule 24 of the Sustainable Planning Regulation 2009 as clearing that is not assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009.

Clearing to clear, for vegetation:

- (1) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining, but
- (2) does not include destroying standing vegetation by stock, or lopping a tree.

Coastal subregions of the Brigalow Belt bioregion are Townsville Plains and Bogie River Hills subregions of the Brigalow Belt Bioregion, and Marlborough Plains.

Demonstrated encroachment is:

- (1) determined by a comparison of historical—greater than 10 years old—and recent—less than 10 years old—aerial photography or satellite imagery that shows the application area at a scale and clarity to allow for accurate measurement of an increase in the extent of woody vegetation within the application area, or
- (2) the presence of woody species within the application area that are not listed in the regional ecosystem’s full description in the regional ecosystem description database.

Editor’s note: Information on aerial photography services offered by the Department of Natural Resources and Mines (DNRM) is available from the following website: www.dnrm.qld.gov.au

Discharge area is an area identified as a discharge area by an assessment process that is consistent with the document: *Salinity Management Handbook*, Queensland’s Department of Natural Resources, 1997.

Dispersible is a soil that dissolves into its constituent particles—clay, silt, sand—when immersed in distilled water, determined after a period of 2 hours.

Essential habitat See the *Vegetation Management Act 1999*, section 20AC.

Editor’s note: **Essential habitat**, for protected wildlife, means an area of vegetation shown on the regional ecosystem map or remnant map as remnant vegetation—

- (1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
- (2) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat database means a database, listing essential habitat factors for protected wildlife, certified by the chief executive of the *Vegetation Management Act 1999* as an essential habitat database.

Essential habitat factors are for protected wildlife, is a component of the wildlife’s habitat, including for example, a landform, pollinator, regional ecosystem, soil and water, that is necessary or desirable for the wildlife at any stage of its lifecycle.

Essential habitat map see the *Vegetation Management Act 1999*

Editor’s note: An essential habitat map is a map certified by the chief executive as the essential habitat map for the State and showing, for the State, areas the chief executive of the *Vegetation Management Act 1999* reasonably believes are areas of essential habitat or essential regrowth habitat for protected wildlife.

Essential management means clearing native vegetation:

- (1) for establishing or maintaining a necessary firebreak to protect infrastructure other than a fence, road or vehicular track, if the maximum width of the firebreak is equivalent to 1.5 times the height of the tallest vegetation adjacent to the infrastructure, or 20m, whichever is the greater, or

- (2) for establishing a necessary fire management line if the maximum width of the clearing for the fire management line is 10m, or
- (3) necessary to remove or reduce the imminent risk that the vegetation poses of serious personal injury or damage to infrastructure, or
- (4) by fire under the *Fire and Rescue Service Act 1990* to reduce hazardous fuel load, or
- (5) necessary to maintain infrastructure including any core airport infrastructure, buildings, fences, helipads, roads, stockyards, vehicular tracks, watering facilities and constructed drains other than contour banks, other than to source construction material; or
- (6) for maintaining a garden or orchard, other than clearing predominant canopy trees to maintain underplantings established within remnant vegetation, or
- (7) on land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber to repair existing infrastructure on the land, if:
 - (a) the infrastructure is in need of immediate repair
 - (b) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (c) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (8) by the owner on freehold land to source construction timber to maintain infrastructure on any land of the owner, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*; and
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Fodder harvesting see the *Vegetation Management Act 1999*

Editor's note: Fodder harvesting is the clearing of vegetation predominantly consisting of fodder species—

- (1) necessary to provide fodder for stock; and
- (2) carried out in a way that—
 - (a) conserves the vegetation in perpetuity; and
 - (b) conserves the regional ecosystem in which the vegetation is situated; and
 - (c) results in the woody biomass of the cleared vegetation remaining where it is cleared.

Fodder harvesting area is the area that may be cleared and the area that must not be cleared to meet performance requirement PO10 of the code.

Fodder harvesting plan is a plan that demonstrates:

- (1) that the harvesting of fodder is limited to the extent necessary to provide fodder for stock
- (2) how the harvesting of fodder will be managed over time on the lot(s) that are the subject of the application
- (3) how the regional ecosystems subject to harvesting for fodder will be regenerated on the lot(s) that are the subject of the application.

Fodder species are only those species listed in Table 8.

Groundwater is water occurring below the surface of the ground.

Gully erosion is the removal of soil by water creating large incised channels more than 30 centimetres in depth.

Hard-setting is a characteristic of soils in which a compact, hard, apedal condition forms on drying, but softens in wetting. When dry, the material is hard below any surface crust or flake that may occur, and is not disturbed or indented by pressure of the forefinger.

Immature trees are all woody plants that are greater than 2 metres high, other than mature trees.

Key resource area is an area identified as a key resource area in the *State Planning Policy*.

Land Zone 1 quaternary estuarine and marine deposits subject to periodic inundation by saline or brackish marine waters. Includes mangroves, salt pans, off-shore tidal flats and tidal beaches.

Land Zone 2 quaternary coastal dunes and beach ridges. Includes degraded dunes, sand plains and swales, lakes and swamps enclosed by dunes, as well as coral and sand cays.

Land Zone 3 quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo- estuarine deposits. Also includes estuarine plains currently under fresh water influence, inland lakes and associated dune systems (lunettes).

Maintain the current extent requires applicants to:

- (1) not clear the regional ecosystem, or
- (2) if subparagraph (1) is not reasonably practicable, ensure the structure and function of the regional ecosystem is maintained, or
- (3) if subparagraphs (1) and (2) are not reasonably practicable, provide an offset as a condition of the development approval.

Mapped remnant vegetation is vegetation shown on a [regional ecosystem map](#) or [remnant map](#) as remnant vegetation.

Mass movement is a landslip, earthflow, landslide, rock avalanche or soil creep.

Mature trees are trees and shrubs which are over the size limits specified in Table 9.

Mechanical clearing is the clearing of vegetation using machinery which disturbs the soil surface or uproots woody vegetation.

Most recent suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery— less than 10 years old—that shows the [application area](#) at a scale and clarity to allow for accurate measurement of [woody species crown cover](#).

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Non-coastal subregions of the Brigalow Belt bioregion are all subregions of the Brigalow Belt bioregion other than Townsville Plains (subregion 11.1) and Bogie River Hills (subregion 11.2).

Non-native woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the non-native woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre (0.25 hectare) area.

Past suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery—greater than 10 years old—that shows the [application area](#) at a scale and clarity to allow for accurate measurement of [woody species crown cover](#).

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Pest eradication plan is a plan developed that aims to eradicate a plant or animal declared as a Class 1 or 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002* and that has been approved by both the chief executive that administers the *Land Protection (Pest and Stock Route Management) Act 2002* and the chief executive that administers the *Vegetation Management Act 1999*. For the purpose of this definition, Class 2 pests are outlier populations of Class 2 pests that occur outside of accepted state government containment lines.

Protected wildlife see the *Nature Conservation Act 1992*

Editor's note: Protected wildlife means native wildlife prescribed under the *Nature Conservation Act 1992* as:

- (1) Extinct in the wild wildlife, or
- (2) Endangered wildlife, or
- (3) Vulnerable wildlife,
- (4) Rare wildlife, or
- (5) Near threatened wildlife, or
- (6) Least concern wildlife.

Range of sizes are the size classes set out in Table 10.

Regional ecosystem description database is a database prepared by the Queensland Herbarium.

Editor's note: Regional ecosystem description database can be accessed at: www.dehp.qld.gov.au

Regional ecosystem map see the *Vegetation Management Act 1999*.

Editor's note: Regional ecosystem map is a map certified by the chief executive of the *Vegetation Management Act 1999* as the regional ecosystem map for a part of the State and showing for the part:

- (1) areas of remnant vegetation that are:
 - (a) an endangered regional ecosystem or
 - (b) an of concern regional ecosystem or
 - (c) a least concern regional ecosystem
- (2) the regional ecosystem number for each of the regional ecosystems mentioned in paragraph (1), and
- (3) areas the chief executive decides under section 20AH of the *Vegetation Management Act 1999* to show on the map as remnant vegetation.

Remnant map see the *Vegetation Management Act 1999*

Editor's note: A remnant map is a map certified by the chief executive of the *Vegetation Management Act 1999* as the remnant map for the part of the State to which the regional ecosystem map does not apply and showing for the part—

- (1) areas of remnant vegetation
- (2) areas the chief executive decides under section 20AH to show on the map as remnant vegetation.

Remnant vegetation see the *Vegetation Management Act 1999*

Editor's note: Remnant vegetation means vegetation, part of which forms the predominant canopy of the vegetation:

- (1) covering more than 50% of the undisturbed predominant canopy
- (2) averaging more than 70% of the vegetation's undisturbed height
- (3) composed of species characteristic of the vegetation's undisturbed predominant canopy.

Rill erosion is the removal of soil creating small channels up to 30 centimetres deep.

Root absorbed herbicides are herbicides that are taken up through the root systems of plants, such as those with hexazinone and tebuthiuron as active ingredients.

Routine management for clearing native vegetation on land, means the clearing of native vegetation:

- (1) to establish a necessary fence, road or vehicular track of the maximum width of clearing for the fence, road or track is 10m, or
- (2) to construct necessary built infrastructure, including core airport infrastructure, other than contour banks, fences, roads or vehicular tracks, if—
 - (a) the clearing is not to source construction timber
 - (b) the total extent of clearing is less than 2 hectares
 - (c) the total extent of the infrastructure is on less than 2 hectares, or
- (3) by the owner on freehold land to source construction timber for establishing necessary infrastructure on any land of the owner, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (4) by the lessee of land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber, other than commercial timber, for establishing necessary infrastructure on the land, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Salinisation is the process of salts accumulating in soils or waters.

Scalding is:

- (1) a bare area formed when the surface soil is removed by wind or water erosion, exposing a more clayey subsoil which is relatively impermeable to water; or
- (2) where surface soil has been transformed into a hard-setting condition by exposure to raindrop impact or wind erosion.

Sheet erosion is the removal of a uniform layer of soil from the surface with generally no obvious channel created.

Significant community project see the *Vegetation Management Act 1999* section 10(5).

Editor's note: **Significant community projects** means projects the chief executive of the *Vegetation Management Act 1999* considers have an aesthetic, conservation, cultural or economic benefit to a local or regional community or the state including—

- (1) a project that serves an essential need of the community (for example essential infrastructure, schools) and
- (2) a project that significantly improves the community's access to services (for example hospitals, state or local government libraries or museums).

Significant wetland is:

- (1) In the Baffle, Barron, Black, Boyne, Burdekin, Calliope, Daintree, Don, Fitzroy, Haughton, Herbert, Johnstone, Mossman, Russell-Mulgrave, Murray, O'Connell, Pioneer, Plane, Proserpine, Ross, Shoalwater, Styx, Tully and Waterpark catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) shown as a Great Barrier Reef Wetland on the Vegetation Management Wetland Map, or
- (2) In all other catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) a regional ecosystem listed in Table 14 and the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like, on the most recent 1:250 000 Geoscience Australia topographic map of the area, or
 - (b) a Ramsar wetland.

Slope is a measure of the upward or downward incline of the land surface over any 30 metre length in the application area.

Stable soils are those soils listed in Table 12.

Stream order is a numerical ordering classification of each watercourse segment according to its position within a catchment, as shown in Figure 2. Stream orders are determined using the vegetation management watercourse map.

Unstable soils are—those soils listed in Table 12.

Vegetation management watercourse map is a map, as amended from time to time, held by the department administering the *Vegetation Management Act 1999*. This map includes the:

- (1) Vegetation Management Watercourse Map (1:25 000)
- (2) Vegetation Management Watercourse Map (1:100 000 and 1:250 000). The map can be in digital electronic or hard copy format.

Editor's note: The vegetation management watercourse map is available in digital electronic format from the Department of Natural Resources and Mines website www.dnrm.qld.gov.au. Watercourses from the vegetation management watercourse map are also shown on the current *Vegetation Management Act 1999* Regional Ecosystem and Remnant Maps which are available for download at www.dehp.qld.gov.au

Very stable soils are those soils listed in Table 12.

Very unstable soils are those soils listed in Table 12.

Watercourse means the area of land:

- (1) between the high banks of a natural channel, whether artificially improved or not, in which water flows permanently or intermittently
- (2) that is shown:
 - (a) as a watercourse at a scale of 1:25 000 on the vegetation management watercourse map for the local government areas of Brisbane, Moreton Bay, Sunshine Coast, Gold Coast, Logan and Redland, excluding key resource areas; or
 - (b) as a watercourse at a scale of 1:100 000 on the vegetation management watercourse map for all other local government areas or in key resource areas.

Waterlogging is to soak or saturate with water.

Wetland is the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle, and that is:

- (1) a regional ecosystem listed in Table 11, or

- (2) the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like represented on the most recent, finest scale:
 - (a) Geoscience Australia topographic map or data that shows swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like, or
 - (b) topographic data that represents swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like
- (3) listed as an 'active' spring in the *Queensland Springs Database*.

Wind erosion is the movement of soil by wind.

Woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre area.

Abbreviations

DNRM – Department of Natural Resources and Mines

PMAV – Property Map of Assessable Vegetation

VMA – *Vegetation Management Act 1999*

8.3 Western bioregions state code

8.3.1 Purpose

The purpose of the code is to regulate the clearing of native vegetation within the Western bioregions to:

- (1) conserve remnant vegetation that is—
 - (a) an endangered regional ecosystem
 - (b) an of concern regional ecosystem
 - (c) a least concern regional ecosystem
- (2) conserve vegetation in declared areas
- (3) ensure clearing does not cause land degradation
- (4) prevent loss of biodiversity
- (5) maintain ecological processes
- (6) manage environmental effects of the clearing to achieve (1) through (5)
- (7) reduce greenhouse gas emissions.

8.3.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 8.3.1
Operational work	Table 8.3.2
Reconfiguring a lot	Table 8.3.1

- (2) Development that is a material change of use or reconfiguring a lot mentioned in column 1 of Table 8.3.1 must comply with the relevant provisions of Tables 8.3.3 to 8.3.11 mentioned in column 2 of Table 8.3.1.
- (3) Development that is operational work mentioned in column 1 of Table 8.3.2 must comply with the relevant provisions of Tables 8.3.4 to 8.3.11 mentioned in column 2 of Table 8.3.2.

Table 8.3.1: Development and relevant provisions of the code—material change of use and reconfiguring a lot

Development	Relevant provisions of the code
An application for a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.3.3 —General: PO1–PO2 Table 8.3.7 —Coordinated projects: PO1–PO10
An application for extractive purpose that is for a <u>significant community project</u>	Table 8.3.3 —General: PO1 Table 8.3.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10
An application for any other purpose that is for a <u>significant community project</u>	Table 8.3.3 —General: PO1 Table 8.3.6 —Public safety and infrastructure: PO2–PO10
An application for an extractive industry in a <u>key resource area</u>	Table 8.3.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10

Development	Relevant provisions of the code
An application for any other purpose where <u>clearing</u> of an endangered or of concern regional ecosystem will occur	Table 8.3.3 —General: PO1–PO2 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.3.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.3.6 —Public safety and infrastructure: PO2–PO10
An application for any other purpose where <u>clearing</u> of a least concern regional ecosystem will occur	Table 8.3.3 —General: PO1 For an extractive industry that is not a <u>key resource area</u> : Table 8.3.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.3.6 —Public safety and infrastructure: PO2–PO10

Table 8.3.2: Development and relevant provisions of the code—operational work

Development	Relevant provisions of the code
Clearing of encroachment	Table 8.3.4 —Encroachment: PO1–PO7
For <u>fodder harvesting</u>	Table 8.3.5 —Fodder: PO1–PO12
Establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure (each relevant infrastructure), and the <u>clearing</u> for the relevant infrastructure cannot reasonably be avoided or minimised	Table 8.3.6 —Public safety and infrastructure: PO1–PO10
<u>Clearing</u> that is a natural and ordinary consequence of other assessable development for which a development approval was given under the repealed <i>Integrated Planning Act 1997</i> , or a development application was made under that Act, before 16 May 2003	Table 8.3.6 —Public safety and infrastructure: PO1–PO10
To ensure public safety	Table 8.3.6 —Public safety and infrastructure: PO1–PO10
A project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.3.7 —Coordinated projects: PO1–PO10
For thinning	Table 8.3.8 —Thinning: PO1–PO7
Necessary to control non-native plants or declared pests	Table 8.3.9 —Weed or pest management: PO1–PO7
For an extractive industry in a <u>key resource area</u>	Table 8.3.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10
For an extractive industry that is not in a <u>key resource area</u>	Table 8.3.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO1–PO10

Table 8.3.3: General

Performance outcomes	Acceptable outcomes
Clearing to avoid and minimise impacts	
PO1 To regulate the <u>clearing of vegetation</u> in a way that ensures the conservation of regional ecosystems, <u>clearing</u> only occurs where the applicant has demonstrated that the development has first avoided and minimised the impacts of development.	No acceptable outcome is prescribed.
Biodiversity and conservation outcomes	
PO2 <u>Clearing</u> may occur only where it can be demonstrated that the level of conservation and biodiversity outcomes ensured by the development significantly exceeds the extent and value of the area proposed to be cleared. This can only be achieved by meeting the requirements of Appendix A: Vegetation offset policy.	No acceptable outcome is prescribed.

Table 8.3.4: Encroachment

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of encroachment only occurs in the regional ecosystems listed in Table 1.	No acceptable outcome is prescribed.
Mature trees	
PO1 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> does not remove <u>mature trees</u> .	No acceptable outcome is prescribed.
Demonstrated encroachment	
PO3 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs in areas where there is demonstrated encroachment.	No acceptable outcome is prescribed.
Wetlands	
PO4 To regulate the <u>clearing</u> of vegetation in a	AO4.1 <u>Clearing</u> does not occur:

Performance outcomes	Acceptable outcomes
<p>way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>OR</p> <p>A04.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Watercourses	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	<p>A05.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2. <p>OR</p> <p>A05.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Soil erosion	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients, <p>within or outside the lot(s) that are the subject of the application.</p>	<p>A06.1 <u>Mechanical clearing</u> only occurs on:</p> <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> less than 10 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 3 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent. <p>OR</p> <p>A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	<p>A07.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the latest version of the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p> <p>OR</p> <p>A07.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>

8.3.5: Fodder

Performance outcomes	Acceptable outcomes
Limits to fodder harvesting	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO12, <u>clearing for fodder harvesting</u>:</p> <p>(1) occurs only in the following, areas, as shown in Figure 2—</p> <ul style="list-style-type: none"> (a) the Mulga Lands bioregion, or (b) Southern Wooded Downs subregion of the Mitchell Grass Downs bioregion, or (c) the Goneaway Tablelands subregion, Coopers Plains subregion and Noccundra Slopes subregion of the Channel Country bioregion <p>(2) is limited to the extent necessary to provide fodder for stock.</p>	No acceptable outcome is prescribed.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are endangered and of concern regional ecosystems, <u>fodder harvesting</u> does not occur in endangered regional ecosystems and of concern regional ecosystems.</p>	No acceptable outcome is prescribed.
Cleared vegetation	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, cleared vegetation must not be moved from where it falls.</p>	No acceptable outcome is prescribed.
Conserving the fodder resource	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, a <u>fodder harvesting plan</u> is provided that demonstrates the conservation of <u>fodder species</u> in perpetuity.</p>	<p>AO4.1 The <u>fodder harvesting area</u> is no more than 30 per cent of the area of the lot(s) that are the subject of the application in any 12 month period.</p>

Performance outcomes	Acceptable outcomes
Wetlands	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>A05.1 <u>Fodder harvesting</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants; and (3) aquatic habitat (4) terrestrial habitat. 	<p>A06.1 <u>Fodder harvesting</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2.
Connectivity	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	<p>A07.1 Where <u>mapped remnant vegetation</u> adjoins the lot(s) that are the subject of the application, connectivity between all vegetation retained as a result of PO10 and the <u>mapped remnant vegetation</u> on adjacent lots must be maintained by corridors of <u>mapped remnant vegetation</u> that are no less than 200 metres wide.</p>
Soil erosion	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, <u>tunnel erosion</u>, <u>stream bank erosion</u>, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject</p>	<p>A08.1 <u>Fodder harvesting</u>:</p> <ol style="list-style-type: none"> (1) by <u>mechanical clearing</u> does not occur on a <u>slope</u> that exceeds 5 per cent (2) in strips only occurs across the <u>slope</u>.

Performance outcomes	Acceptable outcomes
of the application.	
Salinity	
PO9 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	AO9.1 <u>Fodder harvesting</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are regional ecosystems	
PO10 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, <u>fodder harvesting</u> activities: <ol style="list-style-type: none"> (1) retain at least 55 per cent of the predominant canopy cover of the regional ecosystem over each 300 metre x 300 metre (9 hectare) area (2) maintain the range of species of the regional ecosystem at the locality. 	AO10.1 <u>Fodder harvesting</u> : <ol style="list-style-type: none"> (1) occurs in— <ol style="list-style-type: none"> (a) strips that are no greater than 135 metres wide, and retains at least 5 hectares of vegetation over each 300 metre x 300 metre (9 hectare) area (b) blocks, and retains at least 5 hectares of vegetation over each 300 metre x 300 metre (9 hectare) area, or (2) does not occur in the retained vegetation, and the area of retained vegetation must have an average canopy height of <u>fodder species</u> of greater than 4 metres over each 100 metre x 100 metre area or not have been cleared in the previous ten years, or (3) is limited to: <ol style="list-style-type: none"> (a) <u>fodder species</u> (b) other vegetation that is less than 4 metres high. <p>The area of retained vegetation must have an average canopy height of <u>fodder species</u> of greater than 4 metres over each 100 metre x 100 metre area or not have been cleared in the previous 10 years.</p>
Essential habitat	
PO11 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	AO11.1 <u>Fodder harvesting</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Fodder species	
PO12 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes, <u>fodder harvesting</u> consists predominantly of <u>fodder species</u> .	AO12.1 <u>Fodder harvesting</u> only occurs in the regional ecosystems listed in Table 2.

Table 8.3.6: Public safety and infrastructure

Performance outcomes	Acceptable outcomes
Limits to clearing for public safety and infrastructure	
PO1 To regulate the <u>clearing</u> of vegetation in a	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary:</p> <ol style="list-style-type: none"> (1) for establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure, if there is no suitable alternative site for the fence, firebreak, road, track or infrastructure (2) as a natural and ordinary consequence of other assessable development for which a development approval as defined under the repealed <i>Integrated Planning Act 1997</i> was given, or a development application as defined under that Act was made, before 16 May 2003, or (3) to ensure public safety. 	
Wetlands	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO2.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>AND</p> <p>AO2.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent</u> of <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.
Watercourses	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2. <p>AND</p> <p>AO3.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent</u> of <u>assessable vegetation</u> associated with any <u>watercourse</u> to</p>

Performance outcomes	Acceptable outcomes
(4) terrestrial habitat.	provide: (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	<p>AO4.1 Where <u>clearing</u> is less than:</p> <p>(1) 25 metres wide, or</p> <p>(2) 5 hectares</p> <p><u>clearing</u> does not:</p> <p>(a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres</p> <p>(b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres.</p> <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <p>(1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares</p> <p>(2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares</p> <p>(3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres</p> <p>(4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres</p> <p>(5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application</p> <p>(6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.</p> <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, maintain the <u>current extent of mapped remnant vegetation</u> where the vegetation is:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <p>(1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u></p>	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> <p>(1) <u>stable soils</u> on a <u>slope</u> less than 10 per cent</p> <p>(2) <u>unstable soils</u> on a <u>slope</u> less than 3 per cent</p> <p>(3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent.</p>

Performance outcomes	Acceptable outcomes
<p>(2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients</p> <p>within or outside the lot(s) that are the subject of the application.</p>	
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or</p> <p>(2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or</p> <p>(2) 10 metres wide</p> <p><u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or</p> <p>(2) 50 metres wide</p> <p><u>clearing</u> does not occur:</p> <p>(a) in any <u>discharge area</u>, or</p> <p>(b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 3</p> <p>(2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 3, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u>.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 4.</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 4 does not occur unless the <u>clearing</u> is less than:</p> <p>(1) 10 metres wide, or</p> <p>(2) 2 hectares.</p>
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid</p>	<p>A010.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Performance outcomes	Acceptable outcomes
sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	

Table 8.3.7: Coordinated projects

Performance outcomes	Acceptable outcomes
Limits to clearing	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for the project, any associated ancillary works, and the operation of works that comprise a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1974</i> , section 26.	No acceptable outcome is prescribed.
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide: (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.	AO2.1 Clearing does not occur: (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u> .
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide: (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	AO3.1 Clearing does not occur: (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2.

Performance outcomes	Acceptable outcomes
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	<p>AO4.1 Where <u>clearing</u> is less than:</p> <ol style="list-style-type: none"> (1) 25 metres wide, or (2) 5 hectares, <p><u>clearing</u> does not—</p> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. <p>AND</p> <p>AO4.2 <u>Clearing</u> does not:</p> <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application. <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent</u> of <u>mapped remnant vegetation</u> where the vegetation is:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject</p>	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> less than 10 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 3 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent.

Performance outcomes	Acceptable outcomes
of the application.	
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or</p> <p>(2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or</p> <p>(2) 10 metres wide</p> <p><u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or</p> <p>(2) 50 metres wide</p> <p><u>clearing</u> does not occur:</p> <p>(a) in any <u>discharge area</u>, or</p> <p>(b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 3</p> <p>(2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 3, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u>.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 4.</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 4 does not occur unless the <u>clearing</u> is less than:</p> <p>(1) 10 metres wide, or</p> <p>(2) 2 hectares.</p>
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or</p> <p>(2) mobilise acid or metals.</p>	<p>A010.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Table 3.3.8: Thinning

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of thinning does not occur in the regional ecosystems listed in Table 5, except where <u>clearing</u> is solely for removing native plants not indigenous to the bioregion.	No acceptable outcome is prescribed.
Vegetation density	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs where there is an increase of greater than 30 per cent in the cover or density of vegetation within the <u>application area</u> when compared with the cover or density of vegetation typical of the same regional ecosystem surrounding that locality.	AO2.1 <u>Clearing</u> only occurs in areas where: <ol style="list-style-type: none"> (1) there is an increase of greater than 30 per cent in the <u>woody species crown cover</u> determined by comparison of the <u>most recent suitable imagery</u> of the <u>application area</u> with <u>past suitable imagery</u> of the <u>application area</u>, or (2) the <u>woody species crown cover</u> is greater than 70 per cent on <u>past suitable imagery</u>, and the stem density of <u>immature trees</u> is greater than 1000 stems per hectare, or (3) the total <u>application area</u> is less than 15 hectares and there is a stem density of <u>immature trees</u> and woody plants greater than 250 stems in each 50 metre x 50 metre (0.25 hectare) area. OR AO2.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Wetlands	
PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	AO3.1 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. OR AO3.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Watercourses	
PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, 	AO4.1 <u>Mechanical clearing</u> does not occur in the regional ecosystems listed in Table 6. AND AO4.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Performance outcomes	Acceptable outcomes
nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	
Soil erosion	
PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: <ol style="list-style-type: none"> (1) <u>mass movement</u>, <u>gully erosion</u>, <u>rill erosion</u>, <u>sheet erosion</u>, tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	A05.1 <u>Mechanical clearing</u> only occurs on: <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> less than 10 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 3 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent. OR A05.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Conserving remnant vegetation that are regional ecosystems	
PO6 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities: <ol style="list-style-type: none"> (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u>. 	A06.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not remove <u>mature trees</u> (2) does not remove <u>immature trees</u> below the relevant density in Table 7 (3) occurs in a configuration that evenly retains in each 50 metre x 50 metre area the <u>range of sizes</u> of each of the species, except for native plants not indigenous to the bioregion. OR A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Acid sulfate soils	
PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	A07.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002. OR A07.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Table 8.3.9: Weed or pest management

Performance outcomes	Acceptable outcomes
Limits to clearing for weed or pest management	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO7, <u>clearing</u> is limited to the extent necessary to: <ol style="list-style-type: none"> (1) control non-native plants or declared pests, or (2) provide access for control of non-native plants or declared pests if no alternative route exists. 	
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	AO2.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any natural <u>wetland</u> (2) 100 metres from any natural <u>wetland</u> (3) any natural <u>significant wetland</u> (4) 200 metres from any natural <u>significant wetland</u> occurs only— <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	AO3.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any <u>watercourse</u> (2) 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) 50 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 1 or 2 occurs only— <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.

Performance outcomes	Acceptable outcomes
Soil erosion	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject of the application.</p>	<p>AO4.1 <u>Clearing</u> and associated soil disturbance on:</p> <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> greater than 10 per cent (2) <u>unstable soils</u> on a <u>slope</u> greater than 3 per cent (3) <u>very unstable soils</u> on a <u>slope</u> greater than 1 per cent <p>occurs only—</p> <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Conserving remnant vegetation that are regional ecosystems	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities:</p> <ol style="list-style-type: none"> (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u>. 	<p>AO5.1 <u>Clearing</u> that is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <ol style="list-style-type: none"> (1) in accordance with a <u>pest eradication plan</u> (2) to the extent necessary to provide access for the control of the class 1 or 2 pest if no alternative route exists. <p>OR</p> <p>AO5.2 Where <u>clearing</u> is to control or provide access to a non-native or declared plant, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) to control the declared or non-native plant— <ol style="list-style-type: none"> (a) must be in accordance with the limitations set out in Table 8 (b) does not occur by the <u>aerial application of root absorbed herbicides</u> (2) occurs only to the extent necessary to provide access for the control of the declared or non-native plant if no alternative route exists. <p>OR</p> <p>AO5.3 <u>Clearing</u> to control a declared pest animal under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <ol style="list-style-type: none"> (1) within a 3 metre radius around each hole of a rabbit warren (2) to the extent necessary to provide access to a rabbit warren if no alternative route exists.
Requirements for dense regional ecosystems	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes, removal of canopy vegetation does not occur in regional ecosystems listed in</p>	<p>AO6.1 <u>Clearing</u> and associated soil disturbance in regional ecosystems listed in Table 9 occurs only:</p> <ol style="list-style-type: none"> (1) within a 1.5 metre radius from the base of the stem or individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (2) to the extent necessary to provide access for the control of the non-

Performance outcomes	Acceptable outcomes
Table 9.	<p>native or declared plant or to the rabbit warren if no alternative route exists</p> <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	<p>AO7.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>

Table 8.3.10: Extractive Industry in a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for:</p> <ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3). 	No acceptable outcome is prescribed.
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, conserves <u>remnant vegetation</u> that are regional ecosystems, maintains ecological processes and does not cause land degradation, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current 	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>operational area</p> <p>(2) is limited to the area from which material will be extracted within the term of the development approval</p> <p>(3) cannot occur until all required permits are obtained.</p>	
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <p>(1) water quality by filtering sediments, nutrients and other pollutants</p> <p>(2) aquatic habitat</p> <p>(3) terrestrial habitat.</p>	<p>No acceptable outcome is prescribed.</p>
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <p>(1) bank stability by protecting against bank erosion</p> <p>(2) water quality by filtering sediments, nutrients and other pollutants</p> <p>(3) aquatic habitat</p> <p>(4) terrestrial habitat.</p>	<p>No acceptable outcome is prescribed.</p>
Connectivity	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	<p>No acceptable outcome is prescribed.</p>

Performance outcomes	Acceptable outcomes
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	No acceptable outcome is prescribed.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	No acceptable outcome is prescribed.
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u> .	No acceptable outcome is prescribed.
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and conserves <u>remnant vegetation</u> that are regional ecosystems, <u>maintain the current extent</u> of regional ecosystems listed in Table 4.	No acceptable outcome is prescribed.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	No acceptable outcome is prescribed.

Table 8.3.11 Extractive industry in an area that is not a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for one or more of the following:</p> <ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3). 	
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material will be extracted within the term of the permit (3) cannot occur until all required permits are obtained. 	No acceptable outcome is prescribed.
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank 	<p>AO4.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within 200 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 5 or greater (3) within 100 metres from each high bank of each <u>watercourse</u> with a <u>stream order</u> 3 or 4 (4) within 50 metres from each high bank of each <u>watercourse</u> with a <u>stream</u>

Performance outcomes	Acceptable outcomes
erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	<u>order 1 or 2.</u>
Connectivity	
PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are: <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	A05.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 25 metres wide, or (2) 5 hectares, <u>clearing does not—</u> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. OR A05.2 <u>Clearing</u> does not: <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 50 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 50 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	A06.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 2 hectares, or (2) 10 metres wide <u>clearing does not occur in any <u>discharge area</u>.</u> OR A06.2 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	A07.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 3 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 3, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.

Performance outcomes	Acceptable outcomes
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent of regional ecosystems</u> listed in Table 4.	A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 4 does not occur unless the <u>clearing</u> is less than 2 hectares.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	A010.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.

8.3.3 Reference tables

Table 1

Regional ecosystems which may be cleared for encroachment
3.3.56 Eriachne spp. ± Aristida spp. closed tussock grassland in longitudinal drainage depressions
3.12.32 Schizachyrium spp. ± Eriachne spp. tussock grassland on rocky ranges and rock pavements
4.4.2 Astrebla and Iseilema grassland
4.9.20 Astrebla lappacea ± Aristida latifolia ± Panicum decompositum grassland on Cretaceous sediments
4.9.7 Astrebla spp. grassland wooded with Acacia tephрина ± A. cambagei and Atalaya hemiglauca on Cretaceous sediments
4.9.8 Astrebla spp. grassland wooded with Atalaya hemiglauca ± Alectryon oleifolius ± Flindersia maculosa on Cretaceous sediments
4.9.9 Astrebla spp. grassland wooded with Acacia sutherlandii or A. victoriae on Cretaceous sediments
5.7.9 Aristida spp., Eriachne pulchella open grassland wooded with Eucalyptus spp. ± Acacia stowardii on plains
5.7.10 Aristida latifolia and A. contorta sparse grassland wooded with Acacia tetragonophylla ± Senna spp. on Cretaceous sediments
6.7.17 Eriachne mucronata open grassland wooded with Acacia aneura and/or Corymbia terminalis on plains or flat tops of residuals
9.8.5 Astrebla spp. ± Iseilema vaginiflorum tussock grassland ± emergent Corymbia terminalis on basalt plains
9.12.41 Heteropogon triticeus, H. contortus grassland sparsely wooded with Cochlospermum gillivraei, Eucalyptus tetrodonta and Corymbia hylandii on skeletal soils on crests of hills
9.12.42 Dichanthium sericeum, Heteropogon contortus, Aristida spp. grassland very sparsely wooded with Corymbia spp. and Terminalia spp. on rolling hills of acid volcanics

Regional ecosystems which may be cleared for encroachment

10.3.7 <i>Astrebala</i> spp., <i>Iseilema vaginiflorum</i> and/or <i>Dichanthium fecundum</i> or <i>Bothriochloa ewartiana</i> tussock grassland on alluvial plains
10.3.8 <i>Aristida latifolia</i> and <i>Brachyachne convergens</i> sparse-tussock grassland or <i>Sclerolaena</i> spp. dwarf open shrubland on alluvial plains
11.4.11 <i>Dichanthium sericeum</i> , <i>Astrebala</i> spp. and patchy <i>Acacia harpophylla</i> , <i>Eucalyptus coolabah</i> on Cainozoic clay plains
11.9.3 <i>Dichanthium</i> spp., <i>Astrebala</i> spp. grassland on fine-grained sedimentary rocks

Table 2**Regional ecosystems which may be cleared for fodder harvesting**

4.5.1 <i>Acacia aneura</i> ± <i>Atalaya hemiglaucula</i> ± <i>Grevillea striata</i> low woodland on sand plains
4.5.2 <i>Acacia aneura</i> , <i>Triodia pungens</i> tall open shrubland on Quaternary sand sheets
4.5.3 <i>Acacia aneura</i> , <i>Triodia brizoides</i> or <i>Triodia molesta</i> tall open shrubland on Tertiary sand sheets
4.5.4 <i>Archidendropsis basaltica</i> and/or <i>Acacia aneura</i> ± <i>Corymbia terminalis</i> low open woodland on old alluvial sand plains
5.5.1 <i>Acacia aneura</i> low woodland on Quaternary deposits
5.5.2 <i>Acacia aneura</i> ± <i>A. stowardii</i> ± <i>Eremophila latrobei</i> tall shrubland on Quaternary deposits
5.5.4 <i>Acacia stowardii</i> ± <i>A. aneura</i> ± <i>Eucalyptus</i> spp. open shrubland on Quaternary sediments
5.5.6 <i>Archidendropsis basaltica</i> and/or <i>Acacia aneura</i> ± <i>Corymbia terminalis</i> low open woodland on sand plains
5.6.4 <i>Atalaya hemiglaucula</i> ± <i>Acacia aneura</i> ± <i>Acacia</i> spp. ± <i>Corymbia terminalis</i> tall open shrubland on sand dunes
5.7.5 <i>Acacia stowardii</i> open shrubland with <i>Triodia</i> spp. ± <i>A. aneura</i> ± <i>A. shirleyi</i> open shrubland on crests and tops of ranges
5.7.14 <i>Acacia stowardii</i> , <i>Hakea eyreana</i> ± <i>A. aneura</i> ± <i>Eremophila freelingii</i> open shrubland on Ordovician sandstones
6.3.21 <i>Acacia aneura</i> , <i>A. excelsa</i> and/or <i>Geijera parviflora</i> low woodland on low alluvial sand dunes
6.5.1 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> , <i>E. melanophloia</i> open forest on undulating lowlands
6.5.6 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> low woodland on run-on plains
6.5.7 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>E. intertexta</i> low woodland on run-on areas
6.5.8 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>Eremophila gilesii</i> low woodland
6.5.9 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> shrubby low woodland on Quaternary sediments
6.5.10 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>Grevillea striata</i> , <i>A. excelsa</i> , <i>Hakea ivoryi</i> low woodland on sand plains
6.5.11 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> low woodland on sand plains
6.5.13 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>E. melanophloia</i> ± <i>Brachychiton populneus</i> low woodland on sand plains
6.5.14 <i>Acacia aneura</i> ± <i>Eucalyptus populnea</i> ± <i>Eremophila gilesii</i> tall open shrubland on Quaternary sediments

Table 3**Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems**

1.10.6 Springs mostly associated with quartzose sandstone and fine-grained sedimentary rocks (limestone)
3.1.2 <i>Avicennia marina</i> ± <i>Ceriops tagal</i> low open forest landward side of mangroves
3.1.4 <i>Excoecaria agallocha</i> ± <i>Aegiceras corniculata</i> closed scrub. Upper tidal reaches of rivers
3.2.1 Evergreen notophyll vine forest on coastal dunes and beach ridges
3.2.2 Semi-deciduous vine thicket on coastal dunes and beach ridges
3.2.3 <i>Melaleuca dealbata</i> ± <i>Acacia crassicarpa</i> open forest. Occurs in dune swales on the west coast
3.2.4 <i>Melaleuca leucadendra</i> ± <i>M. dealbata</i> open forest. In dune swales, and swampy areas
3.2.13 Evergreen notophyll vine forest on beach ridges on the east coast
3.2.14 <i>Melaleuca arcana</i> low open forest. Associated with dune swamps

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems

3.2.17 <i>Leucopogon yorkensis</i> ± <i>Asteromyrtus angustifolia</i> closed scrub on dunefields
3.2.28 Evergreen notophyll vine forest on beach ridges on coral atolls, shingle cays and sand cays
3.2.29 <i>Pisonia grandis</i> low closed forest. Restricted to a few scattered sand cays
3.2.30 <i>Pemphis acidula</i> ± low closed forest. Restricted to coral atolls, shingle cays and sand cays
3.2.31 <i>Premna serratifolia</i> closed scrub. Restricted to coral atolls, shingle cays and sand cays
3.3.2 Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
3.3.4 Evergreen mesophyll vine forest with <i>Archontophoenix</i> spp. On stream banks
3.3.6 Evergreen notophyll vine forest with <i>Melaleuca leucadendra</i> on swamps
3.3.7 Tall semi-deciduous notophyll/microphyll vine thicket. Occurs on colluvial plains
3.3.11 <i>Melaleuca leucadendra</i> ± <i>Eucalyptus tereticornis</i> open forest on alluvium
3.3.12 <i>Melaleuca quinquenervia</i> open forest. Associated with scattered coastal swamps
3.3.39 Semi-deciduous microphyll vine forest ± <i>Melaleuca</i> spp. Associated with sinkholes
3.3.40 <i>Terminalia</i> sp. deciduous vine thicket in depressions in Lakefield area
3.3.67 <i>Melaleuca arcana</i> low open forest in swamps
3.3.68 Semi-deciduous notophyll vine forest and thicket on alluvial plains
3.3.69 <i>Melaleuca dealbata</i> ± <i>Corymbia clarksoniana</i> tall open forest on alluvial plains
3.3.70 <i>Lophostemon suaveolens</i> ± <i>Melaleuca cajuputi</i> subsp. <i>platyphylla</i> ± <i>Pandanus</i> sp. ± <i>Livistona muelleri</i> woodland and open forest. Alluvial plains of northern Torres Strait Islands
3.5.32 <i>Asteromyrtus brassii</i> + <i>Syzygium angophoroides</i> + <i>Acmena hemilampra</i> subsp. <i>hemilampra</i> open forest. Residual sand rises and sheets
3.7.1 Semi-deciduous notophyll/microphyll vine thicket on isolated lateritic hillslopes
3.8.1 Complex mesophyll vine forest. Occurs on basalt lowlands
3.8.2 Semi-deciduous notophyll/microphyll vine forest

Table 4**Regional ecosystems that are at risk of the remnant extent falling below 30% of its pre-clearing extent, or having a remnant extent of less than 10 000 hectares**

3.3.24 <i>Eucalyptus leptophleba</i> +/- <i>Corymbia clarksoniana</i> woodland on sandstone colluvium
6.3.8 <i>Eucalyptus largiflorens</i> +/- <i>Acacia cambagei</i> woodland on alluvium
6.5.2 <i>Eucalyptus populnea</i> , <i>Acacia aneura</i> and/or <i>E. melanophloia</i> woodland on Quaternary sediments
6.5.3 <i>Eucalyptus populnea</i> , <i>Acacia aneura</i> <i>Eremophila mitchellii</i> woodland within <i>A. aneura</i> communities
6.5.9 <i>Acacia aneura</i> , <i>Eucalyptus populnea</i> <i>E. melanophloia</i> shrubby low woodland on Quaternary sediments
6.7.2 <i>Acacia microsperma</i> open forest on upper and footslopes
6.7.16 <i>Acacia stowardii</i> , <i>Eucalyptus exserta</i> open shrubland on colluvials associated with residuals
9.3.7 Wetlands and seasonally inundated grasslands with a fringing open woodland of mixed <i>Eucalyptus</i> spp. on Tertiary surfaces
9.3.17 <i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> +/- <i>Melaleuca</i> spp. fringing woodland on channels and levees on basalt flows
9.11.8 Semi-deciduous vine thicket on limestone rock outcrops
9.12.40 <i>Melaleuca citrolens</i> +/- <i>Terminalia platyptera</i> +/- <i>Corymbia dallachiana</i> +/- <i>Erythrophleum chlorostachys</i> shrubland to tall shrubland on footslopes and rolling hills of acid volcanics
10.3.11 <i>Corymbia citriodora</i> or <i>C. leichhardtii</i> woodland to tall woodland on alluvium in valleys
10.3.22 Clay pans, <i>Fimbristylis</i> sp. open sedgeland and spare-tussock grasslands on shallow alluvial plains

Table 5

Regional ecosystems where thinning cannot occur
1.10.5 <i>Acacia shirleyi</i> open forest on skeletal soils and earths on sandstone plateaus
2.1.1 Offshore tidal sands and mud flats, including sea grass beds
2.1.2 Tidal low coastal rises of shells, sand or mud, and associated gutters, usually with mangroves
2.1.3 Tidal channels and associated levees, usually with mangroves
2.1.4 Infrequently inundated clay plains and low samphire rises
2.7.1 <i>Acacia shirleyi</i> low open forest or <i>Melaleuca tamariscina</i> shrubland on laterised mudstones on skeletal soils
2.7.2 <i>Acacia shirleyi</i> , <i>Eucalyptus shirleyi</i> , <i>Corymbia setosa</i> subsp. <i>pedicellaris</i> or <i>Melaleuca acacioides</i> woodland on low scarps on skeletal soils
2.10.5 <i>Acacia shirleyi</i> woodland and <i>Triodia pungens</i> hummock grassland on scarps and stony ledges
3.1.1 Closed forest of <i>Rhizophora stylosa</i> ± <i>Bruguiera gymnorhiza</i> . Occurs as outer mangroves
3.1.2 <i>Avicennia marina</i> ± <i>Ceriops tagal</i> low open forest landward side of mangroves
3.1.3 <i>Ceriops tagal</i> ± <i>Avicennia marina</i> low closed forest. Extensive on intertidal areas
3.1.4 <i>Excoecaria agallocha</i> ± <i>Aegiceras corniculata</i> closed scrub. Upper tidal reaches of rivers
3.1.5 <i>Sporobolus virginicus</i> closed tussock grassland. Occurs on coastal plains
3.1.6 Sparse herbland or bare salt pans. Associated with salt plains and saline flats
3.12.37 <i>Eucalyptus platyphylla</i> ± <i>Corymbia stockerii</i> ± <i>Corymbia clarksoniana</i> woodland to open woodland on coastal hills
3.12.38 <i>Corymbia clarksoniana</i> ± <i>Corymbia stockerii</i> ± <i>Corymbia nesophila</i> low mixed woodland of Torres Strait Islands
3.2.1 Evergreen notophyll vine forest on coastal dunes and beach ridges
3.2.2 Semi-deciduous vine thicket on coastal dunes and beach ridges
3.2.11 Low microphyll vine forest. Occurs on coastal dunes and beach ridges
3.2.12 Araucarian microphyll vine forest on coastal dunefields and beach ridges
3.2.13 Evergreen notophyll vine forest on beach ridges on the east coast
3.2.17 <i>Leucopogon yorkensis</i> ± <i>Asteromyrtus angustifolia</i> closed scrub on dunefields
3.2.21 <i>Neofabricia myrtifolia</i> ± <i>Jacksonia thesioides</i> open to closed heath. Extensive on dunefields
3.2.28 Evergreen notophyll vine forest on beach ridges on coral atolls, shingle cays and sand cays
3.2.29 <i>Pisonia grandis</i> low closed forest. Restricted to a few scattered sand cays
3.2.30 <i>Pemphis acidula</i> ± low closed forest. Restricted to coral atolls, shingle cays and sand cays
3.2.31 <i>Premna serratifolia</i> closed scrub. Restricted to coral atolls, shingle cays and sand cays
3.3.1 Closed semi-deciduous mesophyll vine forest. Mainly occurs on loamy alluvia and foot slopes
3.3.2 Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
3.3.4 Evergreen mesophyll vine forest with <i>Archontophoenix</i> spp. On stream banks
3.3.5 Evergreen notophyll vine forest. Occurs on alluvia on major watercourses
3.3.6 Evergreen notophyll vine forest with <i>Melaleuca leucadendra</i> on swamps
3.3.69 <i>Melaleuca dealbata</i> ± <i>Corymbia clarksoniana</i> tall open forest on alluvial plains
3.3.7 Tall semi-deciduous notophyll/microphyll vine thicket. Occurs on colluvial plains
3.3.70 <i>Lophostemon suaveolens</i> ± <i>Melaleuca cajuputi</i> subsp. <i>platyphylla</i> ± <i>Pandanus</i> sp. ± <i>Livistona muelleri</i> woodland and open forest. Alluvial plains of northern Torres Strait Islands
3.3.38 Deciduous microphyll vine thicket ± <i>Lagerstroemia archeriana</i> on heavy clay alluvium
3.3.39 Semi-deciduous microphyll vine forest ± <i>Melaleuca</i> spp. Associated with sinkholes
3.3.40 <i>Terminalia</i> sp. deciduous vine thicket in depressions in Lakefield area

Regional ecosystems where thinning cannot occur

3.5.3 Semi-deciduous notophyll vine forest. Restricted to lateritic Carnegie Tableland
3.5.4 Semi-deciduous notophyll vine forest. Occurs as small patches on northern plateaus
3.5.20 Simple evergreen notophyll vine forest with <i>Eucalyptus pellita</i> on sandstone plateaus
3.7.1 Semi-deciduous notophyll/microphyll vine thicket on isolated lateritic hillslopes
3.7.2 <i>Acacia shirleyi</i> open forest. Occurs on lateritic knolls in the south
3.8.1 Complex mesophyll vine forest. Occurs on basalt lowlands
3.8.2 Semi-deciduous notophyll/microphyll vine forest
3.10.1 Evergreen mesophyll/notophyll vine forest. Restricted to sandstone gullies
3.10.2 Simple evergreen notophyll vine forest in northeast on flat sandstone and ferricrete plateaus
3.10.3 Simple evergreen notophyll vine forest with <i>Callitris intratropica</i>
3.10.5 Deciduous notophyll/microphyll vine thicket ± <i>Gyrocarpus americanus</i> on sandstone hills
3.11.1 Semi-deciduous mesophyll vine forest on coastal ranges, mainly in the central Peninsula
3.11.2 Semi-deciduous mesophyll vine forest on metamorphic ranges in the south
3.11.3 Simple evergreen notophyll vine forest on exposed metamorphic and granitic slopes
3.12.1 Semi-deciduous mesophyll/notophyll vine forest on granite slopes, in the central bioregion
3.12.2 Araucarian notophyll vine forest with <i>Araucaria cunninghamii</i> on granitic ridges and mountains
3.12.3 Notophyll vine forest. Occurs on granitic slopes and plateaus on Iron and McIlwraith Ranges
3.12.4 Notophyll vine forest of <i>Welchiodendron longivalve</i> on Torres Strait Islands
3.12.5 Simple evergreen notophyll vine forest. Upper slopes of mountains and ranges in the south
3.12.6 Simple evergreen notophyll vine forest ± <i>Wodyetia bifurcata</i> on the Melville Range
3.12.20 Evergreen notophyll vine forest dominated by <i>Welchiodendron longivalve</i> on headlands
3.12.21 Deciduous vine thicket. Occurs on granite slopes mainly on the Great Dividing Range
3.12.22 Deciduous vine thicket ± <i>Wodyetia bifurcata</i> on granite boulders on Melville and Altanmoui Range
3.12.28 <i>Leptospermum purpurascens</i> tall shrubland on acid volcanic hills in the Iron Range area
4.3.23 <i>Acacia tephрина</i> low woodland on alluvium
4.7.1 <i>Acacia shirleyi</i> , <i>Triodia</i> spp. ± <i>Eucalyptus</i> spp. low woodland on scarps
4.7.6 <i>Eucalyptus leucophylla</i> low open woodland
4.7.7 <i>Eucalyptus leucophylla</i> low open-woodland ± <i>E. terminalis</i> ± <i>Triodia</i> spp.
4.7.8 <i>Eucalyptus leucophylla</i> low open woodland
4.9.15 <i>Acacia harpophylla</i> tall shrubland with scattered emergent <i>Atalaya hemiglauca</i> ± <i>Eucalyptus</i> spp. on Cretaceous sediments
4.9.17 <i>Acacia harpophylla</i> ± <i>A. cambagei</i> low woodland on undulating clay plains
4.9.19 Clumps of <i>Acacia harpophylla</i> low woodland to tall shrubland with <i>Astrebla</i> spp. grassland on Cretaceous sediments sometimes with a covering of Tertiary deposits
5.7.1 <i>Acacia shirleyi</i> ± <i>A. catenulata</i> ± <i>A. aneura</i> ± <i>A. cyperophylla</i> tall shrubland on tops and scarps of residuals
5.7.2 <i>Acacia shirleyi</i> ± <i>Eucalyptus thozetiana</i> tall shrubland with <i>Triodia</i> spp. ± <i>A. aneura</i> ± <i>A. cyperophylla</i> on scarps of residuals
5.7.5 <i>Acacia stowardii</i> open shrubland with <i>Triodia</i> spp. ± <i>A. aneura</i> ± <i>A. shirleyi</i> open shrubland on crests and tops of ranges
5.7.12 <i>Acacia cyperophylla</i> ± <i>A. aneura</i> tall shrubland on scarps and hills of low Ordovician ranges
5.7.13 <i>Acacia cyperophylla</i> ± <i>A. cambagei</i> or <i>A. georginae</i> ± <i>Atalaya hemiglauca</i> tall shrubland on drainage lines within low Ordovician ranges
5.7.14 <i>Acacia stowardii</i> , <i>Hakea eyreana</i> ± <i>A. aneura</i> ± <i>Eremophila freelingii</i> open shrubland on Ordovician sandstones

Regional ecosystems where thinning cannot occur

6.3.25 <i>Acacia harpophylla</i> and/or <i>A. cambagei</i> low woodland to woodland on alluvial plains
6.4.1 <i>Acacia cambagei</i> ± <i>Casuarina cristata</i> low open forest on clay plains
6.4.2 <i>Casuarina cristata</i> ± <i>Acacia harpophylla</i> open forest on clay plains
6.4.4 <i>Acacia harpophylla</i> and/or <i>A. cambagei</i> low woodland on Quaternary deposits overlying older sediments
6.7.1 <i>Acacia catenulata</i> ± <i>A. shirleyi</i> ± <i>Eucalyptus</i> spp. open scrub on crests and slopes
6.7.2 <i>Acacia microsperma</i> open forest on upper and foot slopes
6.7.5 <i>Eucalyptus thozetiana</i> or <i>E. cambageana</i> , <i>Acacia harpophylla</i> woodland on scarps
6.7.7 <i>Acacia catenulata</i> ± <i>Eucalyptus thozetiana</i> and/or <i>A. ensifolia</i> low open woodland with <i>Triodia</i> spp. and/or <i>A. petraea</i> ± <i>A. aneura</i> on scarps and plateaus
6.7.13 <i>Acacia catenulata</i> ± <i>A. petraea</i> tall shrubland on scarps and tops of ranges
6.9.3 <i>Acacia harpophylla</i> woodland with emergent <i>Eucalyptus cambageana</i> with stony soils derived from Cretaceous sediments
7.3.23 Simple-complex semi-deciduous notophyll to mesophyll vine forest on lowland alluvium
7.11.3 Semi-deciduous mesophyll vine forest on moist metamorphic foothill slopes
7.11.7 Complex notophyll vine forest with <i>Agathis robusta</i> emergents on moist metamorphic foothills and uplands
7.12.6 Semi-deciduous mesophyll vine forest on moist granite lowlands and foothills
7.12.7 Complex notophyll vine forest with emergent <i>Agathis robusta</i> on moist granite foothills and uplands
7.12.9 <i>Acacia celsa</i> open to closed forest
7.12.10 Notophyll vine forest with emergent <i>Araucaria cunninghamii</i>
7.12.16 Simple notophyll vine forest on cloudy wet granite and rhyolite uplands and highlands
7.12.57 Shrubland and low woodland mosaic with <i>Syncarpia glomulifera</i> , <i>Corymbia abergiana</i> , <i>Eucalyptus portuensis</i> , <i>Allocasuarina littoralis</i> , and <i>Xanthorrhoea johnsonii</i> , on moist and dry uplands and highlands on granite and rhyolite
9.3.9 <i>Acacia cambagei</i> ± <i>A. harpophylla</i> woodland in run-on areas and gentle depressions overlying basalt rocks
9.3.23 <i>Acacia tephрина</i> woodland to open forest on alluvial plains
9.5.2 Semi-evergreen vine thicket on red kandosols on Tertiary plateaus
9.7.2 <i>Acacia shirleyi</i> ± <i>Eucalyptus</i> spp. low open forest to woodland on mesas and laterised surfaces
9.8.3 Semi-evergreen vine thicket on Quaternary basalt soils
9.8.6 <i>Acacia cambagei</i> open woodland to low open woodland on scree slopes and foot slopes of basalt tablelands
9.8.7 Semi-evergreen vine thicket on cones, craters and rocky basalt flows with little soil development
9.10.3 <i>Acacia shirleyi</i> woodland to open forest ± mixed species on sandstone
9.11.8 Semi-deciduous vine thicket on limestone rock outcrops
9.11.9 Semi-deciduous vine thicket on metamorphic soils (not limestone)
9.11.28 <i>Acacia shirleyi</i> ± <i>Eucalyptus crebra</i> (sens. lat.) ± <i>Corymbia</i> spp. woodland on metamorphic hills and outcrops
9.11.29 <i>Acacia shirleyi</i> , <i>Eucalyptus persistens</i> and <i>Corymbia lamprophylla</i> woodland to open forest on steep to rugged metamorphic hills
9.11.30 <i>Acacia leptostachya</i> low woodland to tall shrubland with variable species mid layer on stony and rocky metamorphic hills
9.12.8 Semi-evergreen vine thicket on rocky outcrops and shallow soils of acid volcanic rocks
9.12.9 <i>Macropteranthes montana</i> tall shrubland on acid and intermediate volcanic rocks
9.12.34 Semi-evergreen vine thicket with <i>Araucaria cunninghamii</i> on steep hills on acid and intermediate volcanic rocks
9.12.36 Deciduous low woodland and/or <i>Acacia leptostachya</i> shrubland on rocky outcrops
9.12.37 <i>Acacia shirleyi</i> woodland to tall shrubland ± <i>Corymbia</i> spp. on acid volcanic rocks

Regional ecosystems where thinning cannot occur

9.12.38 <i>Acacia shirleyi</i> woodland ± <i>Eucalyptus shirleyi</i> ± <i>E. microneura</i> ± <i>Corymbia pocillum</i> on acid volcanic rocks
10.3.1 <i>Acacia argyrodendron</i> low open woodland on alluvial plains (western)
10.3.2 <i>Acacia argyrodendron</i> with or without <i>Eucalyptus cambageana</i> open woodland on alluvial plains (eastern)
10.3.3 <i>Acacia harpophylla</i> and/or <i>Eucalyptus cambageana</i> low open woodland to open woodland on alluvial plains
10.3.4 <i>Acacia cambagei</i> low open woodland to low woodland on alluvial plains
10.3.16 <i>Triodia longiceps</i> hummock grassland, ephemeral open herblands, and <i>Melaleuca bracteata</i> low woodland on alluvial plains
10.3.19 <i>Acacia cambagei</i> woodland on lakeside dunes
10.3.29 <i>Acacia torulosa</i> shrubland or <i>Triodia longiceps</i> hummock grassland on weathered lake dunes
10.3.30 <i>Casuarina cristata</i> woodland on flood plains
10.4.1 <i>Acacia argyrodendron</i> open woodland on Cainozoic lake beds
10.4.2 <i>Acacia harpophylla</i> low open woodland on Cainozoic lake beds (subregion 3)
10.4.3 <i>Acacia harpophylla</i> and/or <i>Eucalyptus cambageana</i> open woodland on Cainozoic lake beds
10.4.4 <i>Acacia cambagei</i> woodland on Cainozoic lake beds (subregion 3)
10.4.5 <i>Acacia cambagei</i> low woodland on Cainozoic lake beds
10.4.6 <i>Terminalia oblongata</i> and <i>Lysiphillum carronii</i> low open woodland on Cainozoic lake beds
10.4.7 <i>Casuarina cristata</i> woodland on Cainozoic lake beds
10.5.6 Shrublands on shallow earths, with species including <i>Melaleuca tamariscina</i> and <i>Acacia leptostachya</i>
10.7.3 <i>Acacia shirleyi</i> woodland or <i>A. catenulata</i> low woodland at margins of plateaus
10.7.7 <i>Melaleuca</i> spp. and/or <i>Acacia leptostachya</i> shrubland on ferricrete (eastern)
10.7.8 <i>Melaleuca</i> spp. and/or <i>Acacia</i> spp. open shrubland on ferricrete (western)
10.9.1 <i>Acacia argyrodendron</i> low open woodland or dwarf open shrubland of chenopods or scald on Cretaceous sediments
10.9.2 <i>Acacia cambagei</i> and/or <i>Eucalyptus thozetiana</i> low woodland to open woodland on calcareous sandstones
10.9.3 <i>Acacia harpophylla</i> and/or <i>Eucalyptus cambageana</i> open woodland to woodland on Mesozoic sediments
10.9.6 <i>Acacia cambagei</i> low woodland on Cretaceous sediments
10.10.1 <i>Acacia shirleyi</i> woodland or <i>A. catenulata</i> low open woodland on sandstone ranges
11.3.1 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on alluvial plains
11.3.5 <i>Acacia cambagei</i> woodland on alluvial plains
11.3.8 <i>Acacia argyrodendron</i> woodland on alluvial plains
11.3.17 <i>Eucalyptus populnea</i> woodland with <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> on alluvial plains
11.4.3 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains
11.4.5 <i>Acacia argyrodendron</i> woodland on Cainozoic clay plains
11.4.6 <i>Acacia cambagei</i> woodland on Cainozoic clay plains
11.4.7 Open forest to woodland of <i>Eucalyptus populnea</i> with <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> on Cainozoic clay plains
11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains
11.4.9 <i>Acacia harpophylla</i> shrubby open forest to woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.7.1 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> and <i>Eucalyptus thozetiana</i> or <i>E. microcarpa</i> woodland on lower scarp slopes on Cainozoic lateritic duricrust
11.7.2 <i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone

Regional ecosystems where thinning cannot occur

11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> open forest to woodland on fine-grained sedimentary rocks
11.9.5 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on fine-grained sedimentary rocks
11.9.11 <i>Acacia harpophylla</i> shrubland on fine-grained sedimentary rocks
11.10.3 <i>Acacia catenulata</i> or <i>A. shirleyi</i> open forest on Cainozoic coarse-grained sedimentary rocks. Crests and scarps
11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks
11.11.2 <i>Eucalyptus persistens</i> low woodland on deformed and metamorphosed sediments and interbedded volcanics
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.11.13 <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> , <i>Terminalia oblongata</i> low open forest on deformed and metamorphosed sediments and interbedded volcanics
11.11.16 <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i> woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
11.12.18 Montane shrubland on igneous rocks

Table 6**Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur**

1.3.7 <i>Eucalyptus camaldulensis</i> woodland on channels and levees (south)
1.3.8 <i>Eucalyptus camaldulensis</i> woodland on channels and levees (north)
1.3.9 Perennial watercourses and associated alluvium
1.9.8 Spring wetlands on undeformed fine-grained sedimentary rock (limestone)
1.10.6 Springs mostly associated with quartzose sandstone and fine-grained sedimentary rocks (limestone)
1.11.5 Springs associated with metamorphic rocks
2.3.1 Grassland on low plains adjacent to estuarine zone
2.3.2 Freshwater and brackish wetlands in old river channels on low plains adjacent to estuarine zone
2.3.12 <i>Excoecaria parvifolia</i> open woodland with sedges in seasonal swamps on grey clay plains
2.3.13 <i>Acacia stenophylla</i> low woodland in seasonal swamps on grey clay plains
2.3.14 <i>Muehlenbeckia florulenta</i> shrub land in channelled depressions in floodplains
2.3.15 <i>Eucalyptus microtheca</i> woodland-low open woodland with <i>Sorghum</i> spp. in seasonally flooded depressions on gleyed podsolics
2.3.16 Deepwater lagoons with water lilies and sedges
2.3.17 <i>Eucalyptus microtheca</i> woodland on channels in fine textured alluvial plains
2.3.20 <i>Corymbia bella</i> , <i>Corymbia polycarpa</i> , and <i>Eucalyptus pruinosa</i> woodland on low rises and plains on pale sandy soils
2.3.21 <i>Eucalyptus leptophleba</i> and <i>Corymbia</i> spp. woodland on low rises and plains on fine sands and red earths
2.3.24 <i>Melaleuca</i> spp. woodland-open forest on sands in channels and on levees
2.3.25 <i>Eucalyptus camaldulensis</i> woodland on levees and floodplains
2.3.26 <i>Eucalyptus camaldulensis</i> and <i>Nauclea orientalis</i> open forest fringing major tributaries
2.3.28 <i>Melaleuca</i> spp. woodland in depressions and shallow valleys on solodised soils and pale earths
2.3.29 <i>Melaleuca</i> spp. woodland fringing depressions and broad valleys on solodised soils
2.3.30 <i>Melaleuca</i> spp. woodland in seasonally flooded depressions on podsolic soils
2.3.31 <i>Melaleuca</i> spp. low woodland in depressions and valley bottoms on fine-textured yellow earths
2.3.33 <i>Eucalyptus microtheca</i> open woodland and sedges in circular depressions in sand plains, on cracking clays

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur

2.3.34 <i>Eucalyptus camaldulensis</i> woodland and sedges in circular depressions on podsolic soils
2.3.38 Sedges in lagoons on plateau surfaces on earths and solodised soils
2.3.39 Springs on recent alluvium
2.10.8 Springs associated with quartzose sandstone or lateritised sandstone gullies and gorges
3.2.3 <i>Melaleuca dealbata</i> ± <i>Acacia crassicaarpa</i> open forest. Occurs in dune swales on the west coast
3.2.4 <i>Melaleuca leucadendra</i> ± <i>M. dealbata</i> open forest. In dune swales, and swampy areas
3.2.14 <i>Melaleuca arcana</i> low open forest. Associated with dune swamps
3.2.20 <i>Melaleuca arcana</i> , <i>Thryptomene oligandra</i> open heath in swampy areas on sand plains
3.2.27 Perennial lakes with sedgeland on margins. Lakes in east coast dunefields
3.2.33 <i>Gahnia sieberiana</i> open to closed heath. Drainage swamps in east coast dunefields
3.3.9 <i>Lophostemon suaveolens</i> open forest. Occurs on streamlines, swamps and alluvial terraces
3.3.10 <i>Melaleuca argentea</i> and/or <i>M. fluviatilis</i> ± <i>M. leucadendra</i> open forest. Fringes streams and creeks
3.3.11 <i>Melaleuca leucadendra</i> ± <i>Eucalyptus tereticornis</i> open forest on alluvium
3.3.12 <i>Melaleuca quinquenervia</i> open forest. Associated with scattered coastal swamps
3.3.14 <i>Melaleuca saligna</i> ± <i>M. viridiflora</i> , <i>Lophostemon suaveolens</i> woodland on drainage swamps
3.3.32 <i>Melaleuca viridiflora</i> ± <i>M. saligna</i> woodland in sinkholes and drainage depressions
3.3.41 <i>Melaleuca clarksonii</i> low open forest in swamps
3.3.42 <i>Melaleuca viridiflora</i> low woodland in drainage areas
3.3.58 <i>Oryza rufipogon</i> ± <i>Eleocharis</i> spp. closed tussock grassland in seasonally inundated depressions
3.3.63 Closed sedge land dominated by <i>Eleocharis dulcis</i> . Occurs on seasonally flooded marine plains
3.3.64 <i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i> open sedge land in drainage swamps in dune fields
3.3.65 Ephemeral lakes and lagoons on alluvial plains and depressions
3.3.66 Permanent lakes and lagoons, frequently with fringing woodlands
3.3.67 <i>Melaleuca arcana</i> low open forest in swamps
3.10.20 <i>Gahnia sieberiana</i> ± <i>Asteromyrtus lysicephala</i> open sedgeland to closed heath in drainage swamps
4.3.1 <i>Eucalyptus camaldulensis</i> ± <i>Melaleuca</i> spp. woodland on drainage lines
4.3.2 <i>Eucalyptus camaldulensis</i> ± <i>E. coolabah</i> woodland on drainage lines
4.3.3 <i>Eucalyptus coolabah</i> , <i>E. camaldulensis</i> ± <i>Lysiphyllum gilvum</i> open woodland on drainage lines
4.3.4 <i>Eucalyptus coolabah</i> open woodland on drainage lines/plains
4.3.5 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> ± <i>Acacia georginae</i> open woodland on drainage lines/plains
4.3.6 <i>E. camaldulensis</i> , <i>Atalaya hemiglauc</i> ± <i>Acacia georginae</i> ± <i>A. cyperophylla</i> woodland on alluvium
4.3.11 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> open woodland on alluvium, billabongs and permanent waterholes
4.3.12 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland on swamps
4.3.13 <i>Eragrostis setifolia</i> and <i>Marsilea drummondii</i> ± <i>Chenopodium auricomum</i> open grassland in drainage depressions
4.3.22 Springs on recent alluvia and fine-grained sedimentary rock
4.3.24 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland on swamps
5.3.1 <i>Eucalyptus camaldulensis</i> ± <i>Melaleuca</i> spp. woodland on levees and banks of major rivers
5.3.2 <i>Eucalyptus camaldulensis</i> ± <i>E. coolabah</i> open woodland on levees and banks of drainage lines
5.3.3 <i>Eucalyptus camaldulensis</i> ± <i>Atalaya hemiglauc</i> ± <i>Acacia georginae</i> ± <i>A. cyperophylla</i> woodland on drainage lines within ranges
5.3.4 <i>Eucalyptus camaldulensis</i> ± <i>Atalaya hemiglauc</i> ± <i>Acacia cambagei</i> ± <i>A. cyperophylla</i> woodland on drainage lines within

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur

ranges

5.3.5 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> ± <i>Lysiphillum gilvum</i> open woodland on major drainage lines
5.3.8 <i>Eucalyptus coolabah</i> low open woodland with <i>Muehlenbeckia florulenta</i> on braided drainage lines
5.3.12 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland in swamps and some clay pans between dunes
5.3.13 <i>Muehlenbeckia florulenta</i> open shrubland on swamps
5.3.14 <i>Atriplex nummularia</i> open shrubland on clay pans between dunes
5.3.15 <i>Maireana aphylla</i> open shrubland on clay pans between dunes
5.3.16 <i>Eragrostis australasica</i> open grassland on alluvial plains on clay pans between dunes
5.3.17 <i>Halosarcia</i> spp. open succulent shrubland fringing playa lakes or clay pans
5.3.18 Short grasses ± forbs open herbland on braided channel systems
5.3.20 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> open woodland fringing billabongs and permanent waterholes
5.3.22 Sparse herbland on clay pans
5.3.23 Springs on recent alluvia and fine-grained sedimentary rocks
6.3.1 <i>Eucalyptus camaldulensis</i> woodland on alluvium within <i>Acacia aneura</i> associations
6.3.2 <i>Eucalyptus camaldulensis</i> ± <i>E. coolabah</i> ± <i>Acacia cambagei</i> woodland on major drainage lines/rivers
6.3.3 <i>Eucalyptus camaldulensis</i> ± <i>E. coolabah</i> ± <i>E. populnea</i> , <i>Acacia stenophylla</i> woodland on alluvium
6.3.8 <i>Eucalyptus largiflorens</i> ± <i>Acacia cambagei</i> woodland on alluvium
6.3.10 <i>Halosarcia</i> spp. open succulent shrubland on alluvium
6.3.11 <i>Eleocharis pallens</i> ± short grasses ± <i>Eragrostis australasica</i> open herbland on clays, associated with ephemeral lakes, billabongs and permanent waterholes
6.3.12 <i>Acacia omalophylla</i> ± <i>A. microsperma</i> ± <i>Eucalyptus coolabah</i> tall open shrubland on alluvium
6.3.23 Springs on recent alluvia, ancient alluvia and fine-grained sedimentary rock
6.7.18 Springs associated with lateritised sandstone
7.3.6 <i>Melaleuca leucadendra</i> ± <i>M. quinquenervia</i> ± <i>M. dealbata</i> open forest, ± an under storey of vine forest species, on very wet poorly drained lowlands
7.3.26 <i>Eucalyptus moluccana</i> or <i>E. microcarpa</i> woodland to open forest on margins of alluvial plains
7.3.28 Rivers and streams including riparian herbfield and shrubland on river and stream bed alluvium, and rock within stream beds
9.3.1 <i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> ± <i>Casuarina cunninghamiana</i> ± <i>Melaleuca</i> spp. fringing woodland on channels and levees. Generally on eastern flowing rivers
9.3.4 Permanent or seasonal wetlands frequently fringed by narrow bands of trees and shrubs including various mixes of <i>Melaleuca</i> spp. and <i>Eucalyptus</i> spp. on alluvial plains
9.3.7 Wetlands and seasonally inundated grasslands with a fringing open woodland of mixed <i>Eucalyptus</i> spp. on Tertiary surfaces
9.3.10 <i>Melaleuca bracteata</i> ± <i>Eucalyptus</i> spp. emergents or vine thicket species open forest to dense shrubland on creeks and swamps in basalt plains
9.3.11 Wetlands (sometimes ephemeral) with aquatic species and fringed with <i>Eucalyptus</i> spp. communities on basalt plains
9.3.12 River beds and associated waterholes
9.3.13 <i>Melaleuca fluviatilis</i> and/or <i>M. argentea</i> ± <i>Eucalyptus camaldulensis</i> fringing woodland on channels and levees. Generally on western flowing rivers
9.3.14 <i>Melaleuca</i> spp. ± <i>Acacia</i> spp. ± <i>Syzygium</i> spp. ± <i>Leptospermum</i> spp. fringing woodland on channels and levees
9.3.15 <i>Eucalyptus tereticornis</i> ± <i>Casuarina cunninghamiana</i> ± <i>Melaleuca</i> spp. fringing woodland on channels and levees

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur
9.3.17 <i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> ± <i>Melaleuca</i> spp. fringing woodland on channels and levees on basalt flows
9.3.18 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> open woodland on intermittent creeks
9.8.8 Springs associated with basalt and alluvium
9.10.2 Springs and their associated vegetation on quartzose sandstone, limestone, metamorphic rock and granite
10.3.13 <i>Melaleuca fluviatilis</i> and/or <i>Eucalyptus camaldulensis</i> woodland along watercourses
10.3.14 <i>Eucalyptus camaldulensis</i> and/or <i>E. coolabah</i> open woodland along channels and on floodplains
10.3.15 Grasslands, sedgeland, ephemeral herblands and open woodland in depressions on sand plains
10.3.17 <i>Acacia excelsa</i> and <i>Grevillea striata</i> low open woodland on lake-fringing dunes
10.3.22 Clay pans, <i>Fimbristylis</i> sp. (Lake Buchanan) open sedgeland and spare-tussock grasslands on shallow alluvial plains (Lake Buchanan)
10.3.23 <i>Halosarcia</i> spp. open succulent shrubland, <i>Leptochloa fusca</i> sparse-tussock grassland and bare clay pan on lake bed (Lake Galilee)
10.3.24 Ephemeral lake bed (Lake Buchanan)
10.3.31 Artesian springs emerging on alluvial plains
10.10.6 Springs associated with margins of sandstone plateaus
11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines
11.3.27 Freshwater wetlands
11.3.37 <i>Eucalyptus coolabah</i> fringing woodland on alluvial plains

Table 7

Immature tree densities required to be retained	
Structure (the structure category of each regional ecosystem is specified in the regional ecosystem description database)	Density of immature trees that must be retained for each 50 metre x 50 metre (0.25 hectare) area
Mid-dense	125
Sparse	75
Very sparse	50

Table 8

Clearing native vegetation for non-native woody species control	
Percentage of area covered by the non-native plant or declared weed	Clearing limitations
<10% <u>non-native woody species crown cover</u>	No clearing of native vegetation.
10–50% <u>non-native woody species crown cover</u>	Clearing: (a) of <u>mature trees</u> of native species does not occur (b) retains the densities of <u>immature trees</u> listed in Table 7.
>50% <u>non-native woody species crown cover</u>	Clearing of <u>mature trees</u> of native species does not occur.

Table 9

Dense regional ecosystems
2.1.2 Tidal low coastal rises of shells, sand or mud, and associated gutters, usually with mangroves
2.1.3 Tidal channels and associated levees, usually with mangroves
3.1.1 Closed forest of <i>Rhizophora stylosa</i> ± <i>Bruguiera gymnorhiza</i> . Occurs as outer mangroves

Dense regional ecosystems

3.1.3	<i>Ceriops tagal</i> ± <i>Avicennia marina</i> low closed forest. Extensive on intertidal areas
3.1.4	<i>Excoecaria agallocha</i> ± <i>Aegiceras corniculata</i> closed scrub. Upper tidal reaches of rivers
3.3.55	<i>Asteromyrtus lysicephala</i> , <i>Thryptomene oligandra</i> open heath on alluvial plains
3.10.1	Evergreen mesophyll/notophyll vine forest. Restricted to sandstone gullies
3.10.2	Simple evergreen notophyll vine forest in northeast on flat sandstone and ferricrete plateaus
3.10.3	Simple evergreen notophyll vine forest with <i>Callitris intratropica</i>
3.10.5	Deciduous notophyll/microphyll vine thicket ± <i>Gyrocarpus americanus</i> on sandstone hills
3.10.17	<i>Neofabricia myrtifolia</i> , <i>Acacia calyculata</i> tall open shrubland on sandstone breakaways
3.10.18	<i>Asteromyrtus lysicephala</i> ± <i>Jacksonia thesioides</i> open heath on undulating plains and slopes
3.10.19	<i>Asteromyrtus lysicephala</i> , <i>Neofabricia myrtifolia</i> dwarf open heath on sandstone plateaus and headlands
3.11.1	Semi-deciduous mesophyll vine forest on coastal ranges, mainly in the central Peninsula
3.11.2	Semi-deciduous mesophyll vine forest on metamorphic ranges in the south
3.11.3	Simple evergreen notophyll vine forest on exposed metamorphic and granitic slopes
3.12.1	Semi-deciduous mesophyll/notophyll vine forest on granite slopes, in the central bioregion
3.12.2	Araucarian notophyll vine forest with <i>Araucaria cunninghamii</i> on granitic ridges and mountains
3.12.20	Evergreen notophyll vine forest dominated by <i>Welchiodendron longivalve</i> on headlands
3.12.21	Deciduous vine thicket. Occurs on granite slopes mainly on the Great Dividing Range
3.12.22	Deciduous vine thicket ± <i>Wodyetia bifurcata</i> on granite boulders on Melville and Altanmoui Range
3.12.35	Semi-deciduous mesophyll/notophyll vine forest on granite slopes of the Torres Strait subregion
3.12.36	Evergreen to complex evergreen mesophyll to notophyll vine forest and thicket on mountain ranges of Torres Strait Islands
3.12.3	Notophyll vine forest. Occurs on granitic slopes and plateaus on Iron and McIlwraith Ranges
3.12.4	Notophyll vine forest of <i>Welchiodendron longivalve</i> on Torres Strait Islands
3.12.5	Simple evergreen notophyll vine forest. Upper slopes of mountains and ranges in the south
3.12.6	Simple evergreen notophyll vine forest ± <i>Wodyetia bifurcata</i> on the Melville Range
3.2.1	Evergreen notophyll vine forest on coastal dunes and beach ridges
3.2.2	Semi-deciduous vine thicket on coastal dunes and beach ridges
3.2.11	Low microphyll vine forest. Occurs on coastal dunes and beach ridges
3.2.12	Araucarian microphyll vine forest on coastal dunefields and beach ridges
3.2.13	Evergreen notophyll vine forest on beach ridges on the east coast
3.2.17	<i>Leucopogon yorkensis</i> ± <i>Asteromyrtus angustifolia</i> closed scrub on dunefields
3.2.21	<i>Neofabricia myrtifolia</i> ± <i>Jacksonia thesioides</i> open to closed heath. Extensive on dunefields
3.2.28	Evergreen notophyll vine forest on beach ridges on coral atolls, shingle cays and sand cays
3.2.29	<i>Pisonia grandis</i> low closed forest. Restricted to a few scattered sand cays
3.2.30	<i>Pemphis acidula</i> ± low closed forest. Restricted to coral atolls, shingle cays and sand cays
3.2.31	<i>Premna serratifolia</i> closed scrub. Restricted to coral atolls, shingle cays and sand cays
3.3.1	Closed semi-deciduous mesophyll vine forest. Mainly occurs on loamy alluvia and foot slopes
3.3.2	Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
3.3.4	Evergreen mesophyll vine forest with <i>Archontophoenix</i> spp. On stream banks
3.3.5	Evergreen notophyll vine forest. Occurs on alluvia on major watercourses
3.3.6	Evergreen notophyll vine forest with <i>Melaleuca leucadendra</i> on swamps

Dense regional ecosystems

3.3.68 Semi-deciduous notophyll vine forest and thicket on alluvial plains
3.3.7 Tall semi-deciduous notophyll/microphyll vine thicket. Occurs on colluvial plains
3.3.38 Deciduous microphyll vine thicket ± <i>Lagerstroemia archeriana</i> on heavy clay alluvium
3.3.39 Semi-deciduous microphyll vine forest ± <i>Melaleuca</i> spp. Associated with sinkholes
3.3.40 <i>Terminalia</i> sp. deciduous vine thicket in depressions in Lakefield area
3.5.3 Semi-deciduous notophyll vine forest. Restricted to lateritic Carnegie Tableland
3.5.4 Semi-deciduous notophyll vine forest. Occurs as small patches on northern plateaus
3.5.20 Simple evergreen notophyll vine forest with <i>Eucalyptus pellita</i> on sandstone plateaus
3.5.32 <i>Asteromyrtus brassii</i> + <i>Syzygium angophoroides</i> + <i>Acmena hemilampra</i> subsp. <i>hemilampra</i> open forest. Residual sand rises and sheets
3.7.1 Semi-deciduous notophyll/microphyll vine thicket on isolated lateritic hillslopes
3.8.1 Complex mesophyll vine forest. Occurs on basalt lowlands
3.8.2 Semi-deciduous notophyll/microphyll vine forest
3.8.5 Semi deciduous and deciduous notophyll vine forest. Basaltic Islands of the Torres Strait
7.3.23 Simple-complex semi-deciduous notophyll to mesophyll vine forest on lowland alluvium
7.11.3 Semi-deciduous mesophyll vine forest on moist metamorphic foothill slopes
7.11.7 Complex notophyll vine forest with <i>Agathis robusta</i> emergents on moist metamorphic foothills and uplands
7.12.6 Semi-deciduous mesophyll vine forest on moist granite lowlands and foothills
7.12.7 Complex notophyll vine forest with emergent <i>Agathis robusta</i> on moist granite foothills and uplands
7.12.9 <i>Acacia celsa</i> open to closed forest
7.12.10 Notophyll vine forest with emergent <i>Araucaria cunninghamii</i>
7.12.16 Simple notophyll vine forest on cloudy wet granite and rhyolite uplands and highlands
9.5.2 Semi-evergreen vine thicket on red kandosols on Tertiary plateaus
9.8.3 Semi-evergreen vine thicket on Quaternary basalt soils
9.8.7 Semi-evergreen vine thicket on cones, craters and rocky basalt flows with little soil development
9.11.8 Semi-deciduous vine thicket on limestone rock outcrops
9.11.9 Semi-deciduous vine thicket on metamorphic soils (not limestone)
9.12.8 Semi-evergreen vine thicket on rocky outcrops and shallow soils of acid volcanic rocks
9.12.34 Semi-evergreen vine thicket with <i>Araucaria cunninghamii</i> on steep hills on acid and intermediate volcanic rocks
10.3.29 <i>Acacia torulosa</i> shrubland or <i>Triodia longiceps</i> hummock grassland on weathered lake dunes
10.5.6 Shrublands on shallow earths, with species including <i>Melaleuca tamariscina</i> and <i>Acacia leptostachya</i>
11.4.6 <i>Acacia cambagei</i> woodland on Cainozoic clay plains
11.5.15 Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces
11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.12.4 Semi-evergreen vine thicket and microphyll vine forest on igneous rocks
11.12.18 Montane shrubland on igneous rocks. Mountain tops

Table 10

Fodder species	
Common name	Scientific name
Mulga	<i>Acacia aneura</i>
Ironwood	<i>Acacia excelsa</i>
Myall	<i>Acacia pendula</i>
Red ash	<i>Alphitonia excelsa</i>
Leopardwood	<i>Flindersia maculosa</i>
Wilga, Tree wilga	<i>Geijera parviflora</i>
Umbrella mulga	<i>Acacia cibaria</i> (<i>Acacia brachystachya</i>)
Bastard (turpentine) mulga	<i>Acacia stowardii</i>

Table 11

Mature tree size limits	
Genus	Diameter at 1.3 metres high (add the diameter of all stems for multi-stemmed plants)
Eucalyptus, Corymbia, Angophora, Lophostemon	>30 centimetres
Genera other than Eucalyptus, Corymbia, Angophora and Lophostemon	>20 centimetres

Table 12

Size classes	
Class	Diameter at breast height over bark
1	< 5 centimetres
2	5–10 centimetres
3	>10–20 centimetres
4	> 20–40 centimetres

Table 13

Wetland regional ecosystems
1.9.8 Spring wetlands on undeformed fine-grained sedimentary rock (limestone)
1.10.6 Springs mostly associated with quartzose sandstone and fine-grained sedimentary rocks (limestone)
1.11.5 Springs associated with metamorphic rocks
2.3.1 Grassland on low plains adjacent to estuarine zone
2.3.2 Freshwater and brackish wetlands in old river channels on low plains adjacent to estuarine zone
2.3.12 <i>Excoecaria parvifolia</i> open woodland with sedges in seasonal swamps on grey clay plains
2.3.13 <i>Acacia stenophylla</i> low woodland in seasonal swamps on grey clay plains
2.3.14 <i>Muehlenbeckia florulenta</i> shrub land in channelled depressions in floodplains
2.3.15 <i>Eucalyptus microtheca</i> woodland-low open woodland with <i>Sorghum</i> spp. in seasonally flooded depressions on gleyed podsolics
2.3.16 Deepwater lagoons with water lilies and sedges
2.3.28 <i>Melaleuca</i> spp. woodland in depressions and shallow valleys on solodised soils and pale earths
2.3.29 <i>Melaleuca</i> spp. woodland fringing depressions and broad valleys on solodised soils

Wetland regional ecosystems

2.3.30 <i>Melaleuca</i> spp. woodland in seasonally flooded depressions on podsollic soils
2.3.31 <i>Melaleuca</i> spp. low woodland in depressions and valley bottoms on fine-textured yellow earths
2.3.33 <i>Eucalyptus microtheca</i> open woodland and sedges in circular depressions in sand plains, on cracking clays
2.3.38 Sedges in lagoons on plateau surfaces on earths and solodised soils
2.3.39 Springs on recent alluvium
2.10.8 Springs associated with quartzose sandstone or lateritised sandstone gullies and gorges
3.2.3 <i>Melaleuca dealbata</i> ± <i>Acacia crassicarpa</i> open forest. Occurs in dune swales on the west coast
3.2.4 <i>Melaleuca leucadendra</i> ± <i>M. dealbata</i> open forest. In dune swales, and swampy areas
3.2.14 <i>Melaleuca arcana</i> low open forest. Associated with dune swamps
3.2.20 <i>Melaleuca arcana</i> , <i>Thryptomene oligandra</i> open heath in swampy areas on sand plains
3.2.27 Perennial lakes with sedgeland on margins. Lakes in east coast dunefields
3.2.33 <i>Gahnia sieberiana</i> open to closed heath. Drainage swamps in east coast dunefields
3.3.9 <i>Lophostemon suaveolens</i> open forest. Occurs on streamlines, swamps and alluvial terraces
3.3.12 <i>Melaleuca quinquenervia</i> open forest. Associated with scattered coastal swamps
3.3.14 <i>Melaleuca saligna</i> ± <i>M. viridiflora</i> , <i>Lophostemon suaveolens</i> woodland on drainage swamps
3.3.32 <i>Melaleuca viridiflora</i> ± <i>M. saligna</i> woodland in sinkholes and drainage depressions
3.3.41 <i>Melaleuca clarksonii</i> low open forest in swamps
3.3.42 <i>Melaleuca viridiflora</i> low woodland in drainage areas
3.3.58 <i>Oryza rufipogon</i> ± <i>Eleocharis</i> spp. closed tussock grassland in seasonally inundated depressions
3.3.63 Closed sedge land dominated by <i>Eleocharis dulcis</i> . Occurs on seasonally flooded marine plains
3.3.64 <i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i> open sedge land in drainage swamps in dune fields
3.3.65 Ephemeral lakes and lagoons on alluvial plains and depressions
3.3.66 Permanent lakes and lagoons, frequently with fringing woodlands
3.3.67 <i>Melaleuca arcana</i> low open forest in swamps
3.10.20 <i>Gahnia sieberiana</i> ± <i>Asteromyrtus lysicephala</i> open sedgeland to closed heath in drainage swamps
4.3.11 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> open woodland on alluvium, billabongs and permanent waterholes
4.3.12 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland on swamps
4.3.13 <i>Eragrostis setifolia</i> and <i>Marsilea drummondii</i> ± <i>Chenopodium auricomum</i> open grassland in drainage depressions
4.3.22 Springs on recent alluvia and fine-grained sedimentary rock
4.3.24 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland on swamps
5.3.12 <i>Chenopodium auricomum</i> ± <i>Muehlenbeckia florulenta</i> open shrubland in swamps and some clay pans between dunes
5.3.13 <i>Muehlenbeckia florulenta</i> open shrubland on swamps
5.3.14 <i>Atriplex nummularia</i> open shrubland on clay pans between dunes
5.3.15 <i>Maireana aphylla</i> open shrubland on clay pans between dunes
5.3.16 <i>Eragrostis australasica</i> open grassland on alluvial plains on clay pans between dunes
5.3.17 <i>Halosarcia</i> spp. open succulent shrubland fringing playa lakes or clay pans
5.3.18 Short grasses ± forbs open herbland on braided channel systems
5.3.20 <i>Eucalyptus coolabah</i> ± <i>E. camaldulensis</i> open woodland fringing billabongs and permanent waterholes
5.3.22 Sparse herbland on clay pans
5.3.23 Springs on recent alluvia and fine-grained sedimentary rocks
6.3.10 <i>Halosarcia</i> spp. open succulent shrubland on alluvium

Wetland regional ecosystems
6.3.11 <i>Eleocharis pallens</i> ± short grasses ± <i>Eragrostis australasica</i> open herbland on clays, associated with ephemeral lakes, billabongs and permanent waterholes
6.3.12 <i>Acacia omalophylla</i> ± <i>A. microsperma</i> ± <i>Eucalyptus coolabah</i> tall open shrubland on alluvium
6.3.23 Springs on recent alluvia, ancient alluvia and fine-grained sedimentary rock
6.7.18 Springs associated with lateritised sandstone
7.3.6 <i>Melaleuca leucadendra</i> ± <i>M. quinquenervia</i> ± <i>M. dealbata</i> open forest, ± an under storey of vine forest species, on very wet poorly drained lowlands
7.3.28 Rivers and streams including riparian herbfield and shrubland on river and stream bed alluvium, and rock within stream beds
9.3.4 Permanent or seasonal wetlands frequently fringed by narrow bands of trees and shrubs including various mixes of <i>Melaleuca</i> spp. and <i>Eucalyptus</i> spp. on alluvial plains
9.3.7 Wetlands and seasonally inundated grasslands with a fringing open woodland of mixed <i>Eucalyptus</i> spp. on Tertiary surfaces
9.3.10 <i>Melaleuca bracteata</i> ± <i>Eucalyptus</i> spp. emergents or vine thicket species open forest to dense shrubland on creeks and swamps in basalt plains
9.3.11 Wetlands (sometimes ephemeral) with aquatic species and fringed with <i>Eucalyptus</i> spp. communities on basalt plains
9.3.12 River beds and associated waterholes
9.8.8 Springs associated with basalt and alluvium
9.10.2 Springs and their associated vegetation on quartzose sandstone, limestone, metamorphic rock and granite
10.3.15 Grasslands, sedgeland, ephemeral herblands and open woodland in depressions on sand plains
10.3.22 Clay pans, <i>Fimbristylis</i> sp. (Lake Buchanan) open sedgeland and spare-tussock grasslands on shallow alluvial plains (Lake Buchanan)
10.3.23 <i>Halosarcia</i> spp. open succulent shrubland, <i>Leptochloa fusca</i> sparse-tussock grassland and bare clay pan on lake bed (Lake Galilee)
10.3.24 Ephemeral lake bed (Lake Buchanan)
10.3.31 Artesian springs emerging on alluvial plains
10.10.6 Springs associated with margins of sandstone plateaus
11.3.27 Freshwater wetlands

Table 14

Soil stability class and soils characteristics	
Soil stability class*	Soil characteristics
Stable	Soils that are Calcarosols, Rudosols (lithosols, shallow stony soils), Organosols (peats, organic soils), Dermosols (structured loams, prairie soils, rendzinas, red and yellow podzolics), Ferrosols (krasnozems, eucrozems, xanthozems), non saline Hydrosols (humic gleys), Podosols (podols, humus podols, coloured sands), Tenosols (lithosols, alluvial soils, earthy sands) OR Soils with no <u>dispersible</u> layers OR Soils with <u>dispersible</u> layers where the <u>dispersible</u> layer is located at a depth greater than 45 centimetres

<p>Unstable</p>	<p>Soils that are Chromosols (podzolics, acid and neutral texture contrast soils), shallow Dermosols, saline Hydrosols (Solonchacks), Kandosols (red, yellow and grey earths), shallow Tenosols, Vertosols (cracking clays, black, grey, red and brown), Kurosols OR Soils with a <u>dispersible</u> layer located between 25 and 45 centimetres deep OR Soils less than 45 centimetres deep</p>
<p>Very unstable</p>	<p>Soils that are Sodosols (Solodic soils, Solodised solonetz) OR Soils with a <u>dispersible</u> layer located less than 25 centimetres deep OR Soils less than 25 centimetres deep</p>

*Where a soil meets the characteristics of two soil stability classes then the less stable class must be used.

8.3.4 Figures

Figure 1: Location of Western bioregions

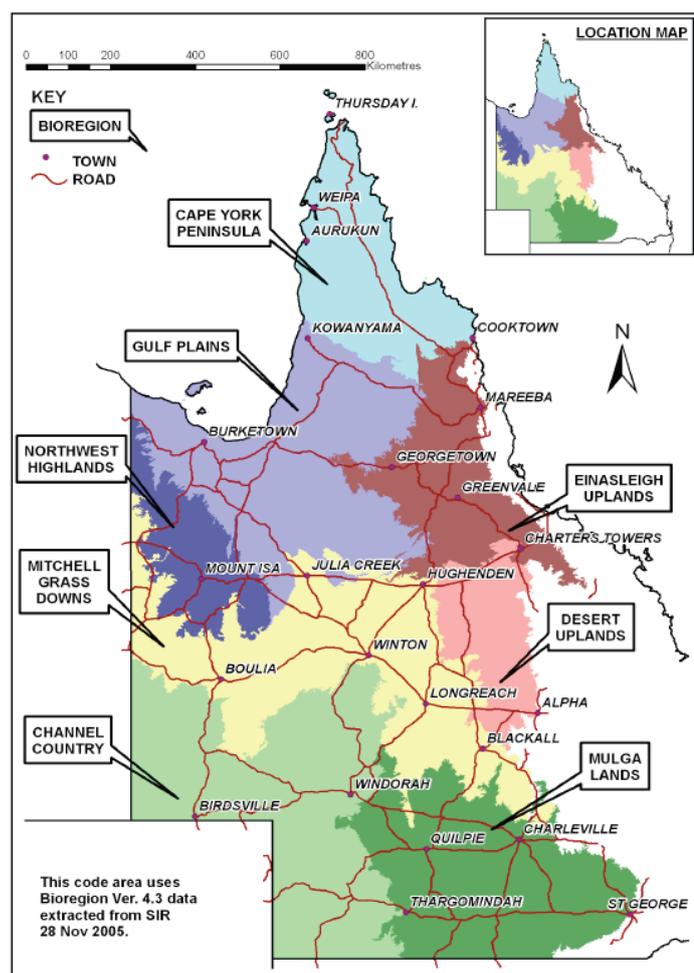
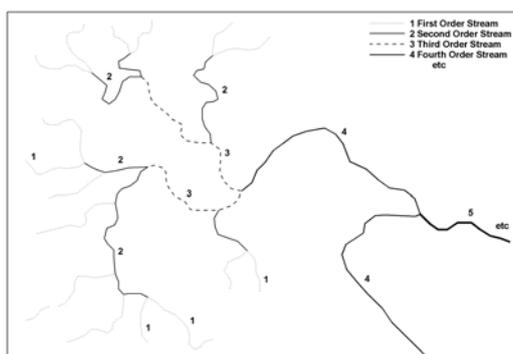


Figure 2: Diagrammatic view of stream ordering

When two streams of the same order join, the resulting watercourse becomes one stream order larger. If two streams of different orders join, the resultant stream order is that of the larger stream.



8.3.5 Glossary of terms

Aerial application is application by aircraft.

Application area is the area identified as proposed for clearing in the property vegetation management plan.

Assessable vegetation is vegetation in which clearing is assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009.

Clearing to clear, for vegetation:

- (1) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining, but
- (2) does not include destroying standing vegetation by stock, or lopping a tree.

Demonstrated encroachment is:

- (1) determined by a comparison of historical—greater than 10 years old—and recent—less than 10 years old—aerial photography or satellite imagery that shows the application area at a scale and clarity to allow for accurate measurement of an increase in the extent of woody vegetation within the application area, or
- (2) the presence of woody species within the application area that are not listed in the regional ecosystem’s full description in the regional ecosystem description database.

Editor’s note: Information on aerial photography services offered by the Department of Natural Resources and Mines (DNRM) is available from the following website: www.dnrm.qld.gov.au

Discharge area is an area identified as a discharge area by an assessment process that is consistent with the document: *Salinity Management Handbook*, Queensland’s Department of Natural Resources, 1997.

Dispersible is a soil that dissolves into its constituent particles clay, silt, sand when immersed in distilled water, determined after a period of 2 hours.

Essential habitat See the *Vegetation Management Act 1999*, section 20AC.

Editor’s note: **Essential habitat**, for protected wildlife, means an area of vegetation shown on the regional ecosystem map or remnant map as remnant vegetation—

- (1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
- (2) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat map see the *Vegetation Management Act 1999*

Editor's note: An essential habitat map is a map certified by the chief executive as the essential habitat map for the State and showing, for the State, areas the chief executive of the *Vegetation Management Act 1999* reasonably believes are areas of essential habitat or essential regrowth habitat for protected wildlife.

Essential habitat factors are for protected wildlife, is a component of the wildlife's habitat, including for example, a landform, pollinator, regional ecosystem, soil and water, that is necessary or desirable for the wildlife at any stage of its lifecycle.

Essential habitat map is a map certified by the chief executive as the essential habitat map for the State and showing, for the State, areas the chief executive of the *Vegetation Management Act 1999* reasonably believes are areas of essential habitat or essential regrowth habitat for protected wildlife.

Fodder harvesting see the *Vegetation Management Act 1999*

Editor's note: Fodder harvesting is the clearing of vegetation predominantly consisting of fodder species—

- (1) necessary to provide fodder for stock; and
- (2) carried out in a way that—
 - (a) conserves the vegetation in perpetuity; and
 - (b) conserves the regional ecosystem in which the vegetation is situated; and
 - (c) results in the woody biomass of the cleared vegetation remaining where it is cleared.

Fodder harvesting area is the area that may be cleared and the area that must not be cleared to meet performance requirement PO10 of the Code.

Fodder harvesting plan a plan that demonstrates:

- (1) that the harvesting of fodder is limited to the extent necessary to provide fodder for stock
- (2) how the harvesting of fodder will be managed over time on the lot(s) that are the subject of the application
- (3) how the regional ecosystems subject to harvesting for fodder will be regenerated on the lot(s) that are the subject of the application.

Fodder species are only those species listed in Table 10.

Groundwater is water occurring below the surface of the ground.

Gully erosion is the removal of soil by water creating large incised channels more than 30 centimetres in depth.

Hard-setting is a characteristic of soils in which a compact, hard, apedal condition forms on drying, but softens in wetting. When dry, the material is hard below any surface crust or flake that may occur, and is not disturbed or indented by pressure of the forefinger.

Immature trees are all woody plants that are greater than 2 metres high, other than mature trees.

Key resource area is an area identified as a key resource area in the *State Planning Policy*.

Land Zone 1 quaternary estuarine and marine deposits subject to periodic inundation by saline or brackish marine waters. This includes mangroves, salt pans, off-shore tidal flats and tidal beaches.

Land Zone 2 quaternary coastal dunes and beach ridges. Includes degraded dunes, sand plains and swales, lakes and swamps enclosed by dunes, as well as coral and sand cays.

Land Zone 3 quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo- estuarine deposits. Also includes estuarine plains currently under fresh water influence, inland lakes and associated dune systems (lunettes).

Land Zone 5 extensive, uniform near level or gently undulating Cainozoic plains with sandy or loamy soils. Includes dissected remnants of these surfaces. Also includes plains with sandy or loamy soils of uncertain origin, and plateau remnants with deep soils usually overlying duricrust.

Land Zone 7 cainozoic duricrusts formed on a variety of rock types, usually forming mesas or scarps. Includes exposed ferruginous, siliceous or mottled horizons and associated talus and colluvium, and remnants of these features, for example low stony rises on downs.

Maintain the current extent requires applicants to:

- (1) not clear the regional ecosystem, or
- (2) if subparagraph (1) is not reasonably practicable, ensure the structure and function of the regional ecosystem is maintained, or
- (3) if subparagraphs (1) and (2) are not reasonably practicable, provide an offset as a condition of the development approval.

Mapped remnant vegetation is vegetation shown on a regional ecosystem map or remnant map as remnant vegetation.

Mass movement is either a landslip, earthflow, landslide, rock avalanche or soil creep.

Mature trees are trees and shrubs which are over the size limits specified in Table 11.

Mechanical clearing is the clearing of vegetation using machinery which disturbs the soil surface or uproots woody vegetation.

Most recent suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery—less than 10 years old—that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's Note: Information on aerial photography services offered by DNRM and is available from the following website: www.dnrm.qld.gov.au

Non-native woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the non-native woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre (0.25 hectare) area.

Past suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery—greater than 10 years old that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's Note: Information on aerial photography services offered by DNRM and is available from the following website: www.dnrm.qld.gov.au

Pest eradication plan is a plan developed that aims to eradicate a plant or animal declared as a Class 1 or 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002* and that has been approved by both the chief executive that administers the *Land Protection (Pest and Stock Route Management) Act 2002* and the chief executive that administers the *Vegetation Management Act 1999*. For the purpose of this definition, Class 2 pests are outlier populations of Class 2 pests that occur outside of accepted State Government containment lines.

Protected wildlife see the *Nature Conservation Act 1992*

Editor's note: Protected wildlife means native wildlife prescribed under the *Nature Conservation Act 1992* as:

- (1) Extinct in the wild wildlife, or
- (2) Endangered wildlife, or
- (3) Vulnerable wildlife,
- (4) Rare wildlife, or
- (5) Near threatened wildlife, or
- (6) Least concern wildlife.

Range of sizes are the size classes set out in Table 12.

Regional ecosystem description database is a database prepared by the Queensland Herbarium.

Editor's note: The Regional ecosystem description database can be accessed at: www.dehp.qld.gov.au

Regional ecosystem map see the *Vegetation Management Act 1999*.

Editor's note: **Regional ecosystem map** is a map certified by the chief executive of the *Vegetation Management Act 1999* as the regional ecosystem map for a part of the State and showing for the part:

- (1) areas of **remnant vegetation** that are:
 - (a) an endangered regional ecosystem or
 - (b) an of concern regional ecosystem or
 - (c) a least concern regional ecosystem
- (2) the regional ecosystem number for each of the regional ecosystems mentioned in paragraph (1), and
- (3) areas the chief executive decides under section 20AH of the *Vegetation Management Act 1999* to show on the map as **remnant vegetation**.

Remnant map see the *Vegetation Management Act 1999*

Editor's note: A **remnant map** is a map certified by the chief executive of the *Vegetation Management Act 1999* as the **remnant map** for the part of the State to which the **regional ecosystem map** does not apply and showing for the part—

- (1) areas of remnant vegetation
- (2) areas the chief executive decides under section 20AH to show on the map as **remnant vegetation**.

Remnant vegetation see the *Vegetation Management Act 1999*

Editor's note: **Remnant vegetation** means vegetation, part of which forms the predominant canopy of the vegetation:

- (1) covering more than 50% of the undisturbed predominant canopy
- (2) averaging more than 70% of the vegetation's undisturbed height
- (3) composed of species characteristic of the vegetation's undisturbed predominant canopy.

Rill erosion is the removal of soil creating small channels up to 30 centimetres deep.

Root absorbed herbicides are herbicides that are taken up through the root systems of plants, such as those with hexazinone and tebuthiuron as active ingredients.

Routine management for clearing native vegetation on land, means the **clearing** of native vegetation:

- (1) to establish a necessary fence, road or vehicular track of the maximum width of **clearing** for the fence, road or track is 10m, or
- (2) to construct necessary built infrastructure, including core airport infrastructure, other than contour banks, fences, roads or vehicular tracks, if—
 - (a) the clearing is not to source construction timber
 - (b) the total extent of **clearing** is less than 2ha
 - (c) the total extent of the infrastructure is on less than 2ha, or
- (3) by the owner on freehold land to source construction timber for establishing necessary infrastructure on any land of the owner, if:
 - (a) the **clearing** does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (4) by the lessee of land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber, other than commercial timber, for establishing necessary infrastructure on the land, if:
 - (a) the **clearing** does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Salinisation is the process of salts accumulating in soils or waters.

Scalding is:

- (1) a bare area formed when the surface soil is removed by wind or water erosion, exposing a more clayey subsoil which is relatively impermeable to water; or
- (2) where surface soil has been transformed into a **hard-setting** condition by exposure to raindrop impact or **wind erosion**.

Sheet erosion is the removal of a uniform layer of soil from the surface with generally no obvious channel created.

Significant community project is See section 10(5) of the *Vegetation Management Act 1999*.

Editor's note: **Significant community projects** means projects the chief executive of the *Vegetation Management Act 1999* considers have an aesthetic, conservation, cultural or economic benefit to a local or regional community or the state including—

- (1) a project that serves an essential need of the community (for example essential infrastructure, schools) and
- (2) a project that significantly improves the community's access to services (for example hospitals, state or local government libraries or museums).

Significant wetland is:

- (1) In the Baffle, Barron, Black, Boyne, Burdekin, Calliope, Daintree, Don, Fitzroy, Haughton, Herbert, Johnstone, Mossman, Russell-Mulgrave, Murray, O'Connell, Pioneer, Plane, Proserpine, Ross, Shoalwater, Styx, Tully and Waterpark catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is—
- (2) shown as a Great Barrier Reef Wetland on the Vegetation Management Wetland Map;

OR

- (3) In all other catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is,
 - (a) a regional ecosystem listed in Table 14 and the area on the ground is represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like, on the most recent 1:250 000 Geoscience Australia topographic map of the area, or
 - (b) a Ramsar wetland.

Slope is a measure of the upward or downward incline of the land surface over any 30 metre length in the application area.

Stable soils are those listed in Table 14.

Stream order is a numerical ordering classification of each watercourse segment according to its position within a catchment, as shown in Figure 2. **Stream orders** are determined using the vegetation management watercourse map.

Unstable soils are those listed in Table 14.

Vegetation management watercourse map is a map, as amended from time to time, held by the Department administering the *Vegetation Management Act 1999*. This map includes the:

- (1) Vegetation Management Watercourse Map (1:25 000)
- (2) Vegetation Management Watercourse Map (1:100 000 and 1:250 000).

Note: The map can be in digital electronic or hard copy format.

Editor's note: The vegetation management watercourse map is available in digital electronic format from the department's website www.dnrm.qld.gov.au. Watercourses from the vegetation management watercourses map are also shown on the current Vegetation Management Act Regional Ecosystem and Remnant Maps which are available for download at www.dehp.qld.gov.au

Very unstable soils are those listed in Table 14.

Watercourse means the area of land:

- (1) between the high banks of a natural channel, whether artificially improved or not, in which water flows permanently or intermittently
- (2) that is shown as a watercourse on the vegetation management watercourse map.

Waterlogging is to soak or saturate with water.

Wetland is the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle, and that is:

- (1) a regional ecosystem listed Table 13, or
- (2) the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like represented on the most recent, finest scale,

- (a) Geoscience Australia topographic map or data that shows swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like—which can be accessed at the following internet address: <http://www.ga.gov.au/topographic-mapping.html> ; or
- (b) topographic data that represents swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like—which is publicly available from the Department of Natural Resources and Mines.
- (3) listed as an 'active' spring in the Queensland Springs Database, which can be accessed at the following internet address: www.dnrm.qld.gov.au.

Wind erosion is the movement of soil by wind.

Woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre area.

Abbreviations

DNRM – Department of Natural Resources and Mines

PMAV – Property Map of Assessable Vegetation

VMA – *Vegetation Management Act 1999*

8.4 Coastal bioregions state code

8.4.1 Purpose

The purpose of the code is to regulate the clearing of native vegetation within the Coastal bioregions to:

- (1) conserve remnant vegetation that is—
 - (a) an endangered regional ecosystem
 - (b) an of concern regional ecosystem
 - (c) a least concern regional ecosystem
- (2) conserve vegetation in declared areas
- (3) ensure clearing does not cause land degradation
- (4) prevent loss of biodiversity
- (5) maintain ecological processes
- (6) manage environmental effects of the clearing to achieve (1) through (5)
- (7) reduce greenhouse gas emissions.

8.4.2 Criteria for assessment

- (1) Subject to subsection (2), development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 8.4.1
Operational work	Table 8.4.2
Reconfiguring a lot	Table 8.4.1

- (2) Development that is a material change of use or reconfiguring a lot mentioned in column 1 of Table 8.4.1 must comply with the relevant provisions of Tables 8.4.3 to 8.4.11 mentioned in column 2 of Table 8.4.1.
- (3) Development that is operational work mentioned in column 1 of Table 8.4.2 must comply with the relevant provisions of Tables 8.4.4 to 8.4.11 mentioned in column 2 of Table 8.4.2.

Table 8.4.1: Development and relevant provisions of the code—material change of use and reconfiguring a lot

Development	Relevant provisions of the code
An application for a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.4.7 —Coordinated projects: PO1–PO10
An application for extractive purpose that is for a <u>significant community project</u>	Table 8.4.3 —General: PO1 Table 8.4.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO2–PO10
An application for any other purpose that is for a <u>significant community project</u>	Table 8.4.3 —General: PO1 Table 8.4.11 —Extractive industry in a <u>key resource area</u> : PO2–PO10
An application for an extractive industry in a <u>key resource area</u>	Table 8.4.11 —Extractive industry in a <u>key resource area</u> : PO1–PO10

Development	Relevant provisions of the code
An application for any other purpose where <u>clearing</u> of an endangered or of concern regional ecosystem will occur	Table 8.4.3 —General: PO1–PO2 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.4.11 — Extractive industry in a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.4.6 —Public safety and infrastructure: PO2–PO10
An application for any other purpose where <u>clearing</u> of a least concern regional ecosystem will occur	Table 8.4.3 —General: PO1 For an extractive industry in an area that is not a <u>key resource area</u> : Table 8.4.11 — Extractive industry in a <u>key resource area</u> : PO2–PO10 OR For all other purposes: Table 8.4.6 —Public safety and infrastructure: PO2–PO10

Table 8.4.2: Development and relevant provisions of the code—operational work

Development	Relevant provisions of the code
Clearing of encroachment	Table 8.4.4 —Encroachment: PO1
For <u>fodder harvesting</u>	Table 8.4.5 —Fodder: PO1
For establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure (each relevant infrastructure), and the <u>clearing</u> for the relevant infrastructure can not reasonably be avoided or minimised	Table 8.4.6 —Public safety and infrastructure: PO1–PO10
<u>Clearing</u> that is a natural and ordinary consequence of other assessable development for which a development approval was given under the repealed <i>Integrated Planning Act 1997</i> , or a development application was made under that Act, before 16 May 2003	Table 8.4.6 —Public safety and infrastructure: PO1–PO10
To ensure public safety	Table 8.4.6 —Public safety and infrastructure: PO1–PO10
A project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1971</i> , section 26	Table 8.4.7 —Coordinated projects: PO1–PO10
For thinning	Table 8.4.8 —Thinning: PO1–PO7
Necessary to control non-native plants or declared pests	Table 8.4.9 —Weed or pest management: PO1–PO7
For an extractive industry in a <u>key resource area</u>	Table 8.4.10 —Extractive industry in a <u>key resource area</u> : PO1–PO10
For an extractive industry that is not in a <u>key resource area</u>	Table 8.4.11 —Extractive industry in an area that is not a <u>key resource area</u> : PO1–PO10

Table 8.4.3: General

Performance outcomes	Acceptable outcomes
Clearing to avoid and minimise impacts	
PO1 To regulate the <u>clearing</u> of vegetation in a way that ensures the conservation of regional ecosystems, <u>clearing</u> only occurs where the applicant has demonstrated that the development has first avoided and minimised the impacts of development.	No acceptable outcome is prescribed.
Biodiversity and conservation outcomes	
PO2 <u>Clearing</u> may occur only where the material change of use or reconfiguring a lot can demonstrate that the level of conservation and biodiversity outcomes ensured by the development significantly exceeds the extent and value of the area proposed to be cleared. This can only be achieved by meeting the requirements of Appendix A: Vegetation offset policy.	No acceptable outcome is prescribed.

Table 8.4.4: Encroachment

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of <u>encroachment</u> does not occur in the Wet Tropics or Central Queensland Coast bioregions.	No acceptable outcome is prescribed.

Table 8.4.5: Fodder

Performance outcomes	Acceptable outcomes
Limits to fodder harvesting	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for <u>fodder harvesting</u> does not occur in the Wet Tropics or Central Queensland Coast bioregions.	No acceptable outcome is prescribed.

Table 8.4.6: Public safety and infrastructure

Performance outcomes	Acceptable outcomes
Limits to clearing for public safety and infrastructure	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary:</p> <ol style="list-style-type: none"> (1) for establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure, if there is no suitable alternative site for the fence, firebreak, road, track or infrastructure, or (2) as a natural and ordinary consequence of other assessable development for which a development approval as defined under the repealed <i>Integrated Planning Act 1997</i> was given, or a development application as defined under that Act was made, before 16 May 2003, or (3) to ensure public safety. 	<p>No acceptable outcome is prescribed.</p>
Wetlands	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO2.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>AND</p> <p>AO2.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.
Watercourses	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within the relevant distances stipulated in Table 1 of each high bank of each <u>watercourse</u>. <p>AND</p> <p>AO3.2 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide</p>

Performance outcomes	Acceptable outcomes
(2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	(1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are:</p> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.	<p>AO4.1 Where <u>clearing</u> is less than:</p> (1) 10 metres wide, or (2) 2 hectares, <u>clearing</u> does not—
	(a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres.
	AND
	<p>AO 4.2 <u>Clearing</u> does not:</p> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares; and (3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application.
	AND
	<p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, maintain the <u>current extent of mapped remnant vegetation</u> where the vegetation is:</p> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> (1) <u>mass movement</u> , <u>gully erosion</u> , <u>rill erosion</u> , <u>sheet erosion</u> , tunnel erosion, stream bank erosion, <u>wind erosion</u> or <u>scalding</u> (2) any associated loss of chemical, physical	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> (1) <u>stable soils</u> on a <u>slope</u> less than 30 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 10 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent.

Performance outcomes	Acceptable outcomes
<p>or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients</p> <p>within or outside the lot(s) that are the subject of the application.</p>	
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or</p> <p>(2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or</p> <p>(2) 10 metres wide</p> <p><u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or</p> <p>(2) 50 metres wide</p> <p><u>clearing</u> does not occur:</p> <p>(a) in any discharge area, or</p> <p>(b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 2</p> <p>(2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 2, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u>.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 3.</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 3 does not occur unless the <u>clearing</u> is less than:</p> <p>(1) 10 metres wide, or</p> <p>(2) 2 hectares.</p>
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the</p>	<p>A010 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Performance outcomes	Acceptable outcomes
location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	

Table 8.4.7: Coordinated projects

Performance outcomes	Acceptable outcomes
Limits to clearing	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for the project, any associated ancillary works, and the operation of works that comprise a project declared to be a coordinated project under the <i>State Development and Public Works Organisation Act 1974</i> , section 26.	No acceptable outcome is prescribed.
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> to provide: (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.	AO2.1 <u>Clearing</u> does not occur: (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u> .
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide: (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	AO3.1 <u>Clearing</u> does not occur: (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 1 of each high bank of each <u>watercourse</u> .

Performance outcomes	Acceptable outcomes
Connectivity	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	<p>AO4.1 Where <u>clearing</u> is less than:</p> <ol style="list-style-type: none"> (1) 10 metres wide, or (2) 2 hectares <p><u>clearing</u> does not—</p> <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. <p>AND</p> <p>AO 4.2 <u>Clearing</u> does not:</p> <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application. <p>AND</p> <p>AO4.3 Where <u>clearing</u> is for a <u>significant community project</u>, <u>maintain the current extent of mapped remnant vegetation</u> where the vegetation is:</p> <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.
Soil erosion	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject</p>	<p>AO5.1 <u>Mechanical clearing</u> only occurs on:</p> <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> less than 30 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 10 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent.

Performance outcomes	Acceptable outcomes
of the application.	
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to:</p> <p>(1) <u>waterlogging</u>, or</p> <p>(2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil.</p>	<p>A06.1 Where <u>clearing</u> is less than:</p> <p>(1) 2 hectares, or</p> <p>(2) 10 metres wide</p> <p><u>clearing</u> does not occur in any <u>discharge area</u>.</p> <p>AND</p> <p>A06.2 Where <u>clearing</u> is less than:</p> <p>(1) 5 hectares, or</p> <p>(2) 50 metres wide</p> <p><u>clearing</u> does not occur:</p> <p>(a) in any <u>discharge area</u>, or</p> <p>(b) within 200 metres of any <u>discharge area</u>.</p> <p>AND</p> <p>A06.3 <u>Clearing</u> does not occur in areas greater than 5 hectares.</p>
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.</p>	<p>A07.1 <u>Clearing</u>:</p> <p>(1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 2</p> <p>(2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 2, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.</p>
Essential habitat	
<p>PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent</u> of <u>essential habitat</u>.</p>	<p>A08.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u>.</p>
Conservation status thresholds	
<p>PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 3.</p>	<p>A09.1 <u>Clearing</u> in a regional ecosystem listed in Table 3 does not occur unless the <u>clearing</u> is less than:</p> <p>(1) 10 metres wide, or</p> <p>(2) 2 hectares.</p>
Acid sulfate soils	
<p>PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <p>(1) aerate horizons containing iron sulfides, or</p> <p>(2) mobilise acid or metals.</p>	<p>A010.1 <u>Clearing</u> in <u>land zone 1</u>, <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>

Table 8.4.8: Thinning code

Performance outcomes	Acceptable outcomes
Clearing limited to specific regional ecosystems	
PO1 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> for the purpose of thinning does not occur in the regional ecosystems listed in Table 4, except where <u>clearing</u> is solely for removing native plants not indigenous to the bioregion.	No acceptable outcome is prescribed.
Vegetation density	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> only occurs where there is an increase of greater than 30 per cent in the cover or density of vegetation within the <u>application area</u> when compared with the cover or density of vegetation typical of the same regional ecosystem surrounding that locality.	<p>AO2.1 <u>Clearing</u> only occurs in areas where:</p> <ol style="list-style-type: none"> (1) there is an increase of greater than 30 per cent in the <u>woody species crown cover</u> determined by comparison of the <u>most recent suitable imagery</u> of the <u>application area</u> with <u>past suitable imagery</u> of the <u>application area</u>, or (2) the <u>woody species crown cover</u> is greater than 70 per cent on <u>past suitable imagery</u>, and the stem density of <u>immature trees</u> is greater than 1000 stems per hectare, or (3) the total <u>application area</u> is less than 15 hectares and there is a stem density of <u>immature trees</u> and woody plants greater than 250 stems in each 50 metre x 50 metre (0.25 hectare) area. <p>OR</p> <p>AO2.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Wetlands	
PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>. <p>OR</p> <p>AO3.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>
Watercourses	
PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, 	<p>AO4.1 <u>Mechanical clearing</u> does not occur in the regional ecosystems listed in Table 5.</p> <p>OR</p> <p>AO4.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.</p>

Performance outcomes	Acceptable outcomes
nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	
Soil erosion	
PO5 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, the effect of <u>clearing</u> does not result in: (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients within or outside the lot(s) that are the subject of the application.	A05.1 <u>Mechanical clearing</u> only occurs on: (1) <u>stable soils</u> on a <u>slope</u> less than 32 per cent (2) <u>unstable soils</u> on a <u>slope</u> less than 10 per cent (3) <u>very unstable soils</u> on a <u>slope</u> less than 1 per cent. OR A05.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Conserving remnant vegetation that are regional ecosystems	
PO6 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities: (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u> .	A06.1 <u>Clearing</u> : (1) does not remove <u>mature trees</u> (2) does not remove <u>immature trees</u> below the relevant density in Table 6 (3) occurs in a configuration that evenly retains in each 50 metre x 50 metre area the <u>range of sizes</u> of each of the species, except for native plants not indigenous to the bioregion. OR A06.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.
Acid sulfate soils	
PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	A07.1 <u>Clearing</u> in <u>land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002. OR A07.2 <u>Clearing</u> is limited to native plants that are not indigenous to the bioregion.

Table 8.4.9: Weed or pest management

Performance outcomes	Acceptable outcomes
Limits to clearing for weed or pest management	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO7, <u>clearing</u> is limited to the extent necessary to: <ol style="list-style-type: none"> (1) control non-native plants or declared pests, or (2) provide access for control of non-native plants or declared pests if no alternative route exists. 	
Wetlands	
PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain: <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	AO2.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any natural <u>wetland</u> (2) 100 metres from any natural <u>wetland</u> (3) any natural <u>significant wetland</u> (4) 200 metres from any natural <u>significant wetland</u> occurs only— <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.
Watercourses	
PO3 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain: <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat. 	AO3.1 <u>Clearing</u> and associated soil disturbance within: <ol style="list-style-type: none"> (1) any <u>watercourse</u> (2) the relevant distance stipulated in Table 1 of each high bank of each <u>watercourse</u> occurs only— <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.
Soil erosion	
PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and	AO4.1 <u>Clearing</u> and associated soil disturbance on: <ol style="list-style-type: none"> (1) <u>stable soils</u> on a <u>slope</u> greater than 32 per cent

Performance outcomes	Acceptable outcomes
<p>maintains ecological processes, the effect of <u>clearing</u> does not result in:</p> <ol style="list-style-type: none"> (1) <u>mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion or scalding</u> (2) any associated loss of chemical, physical or biological fertility, including, but not limited to water holding capacity, soil structure, organic matter, soil biology and nutrients <p>within or outside the lot(s) that are the subject of the application.</p>	<ol style="list-style-type: none"> (2) <u>unstable soils</u> on a <u>slope</u> greater than 10 per cent (3) <u>very unstable soils</u> on a <u>slope</u> greater than 1 per cent <p>occurs only—</p> <ol style="list-style-type: none"> (a) within a 1.5 metre radius from the base of the stem of individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (b) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists <p>unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>
Conserving remnant vegetation that are regional ecosystems	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u> activities:</p> <ol style="list-style-type: none"> (1) maintain the natural floristic composition and <u>range of sizes</u> of each species of the regional ecosystem evenly spaced across the <u>application area</u> (2) do not remove <u>mature trees</u>. 	<p>AO5.1 <u>Clearing</u> that is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <ol style="list-style-type: none"> (1) in accordance with a <u>pest eradication plan</u> (2) to the extent necessary to provide access for the control of the class 1 or 2 pest if no alternative route exists. <p>OR</p> <p>AO5.2 Where <u>clearing</u> is to control or provide access to a non-native or declared plant, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) to control the declared or non-native plant— <ol style="list-style-type: none"> (a) must be in accordance with the limitations set out in Table 7 (b) does not occur by the <u>aerial application of root absorbed herbicides</u> (c) occurs only to the extent necessary to provide access for the control of the declared or non-native plant if no alternative route exists. <p>OR</p> <p>AO5.3 <u>Clearing</u> to control a declared pest animal under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> occurs only:</p> <ol style="list-style-type: none"> (1) within a 3 metre radius around each hole of a rabbit warren (2) to the extent necessary to provide access to a rabbit warren if no alternative route exists.
Requirements for dense regional ecosystems	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, prevents the loss of biodiversity and maintains ecological processes, removal of canopy vegetation does not occur in regional ecosystems listed in Table 8.</p>	<p>AO6.1 <u>Clearing</u> and associated soil disturbance in regional ecosystems listed in Table 8 occurs only:</p> <ol style="list-style-type: none"> (1) within a 1.5 metre radius from the base of the stem or individual non-native or declared plants, or within a 3 metre radius around each hole of a rabbit warren (2) to the extent necessary to provide access for the control of the non-native or declared plant or to the rabbit warren if no alternative route exists

Performance outcomes	Acceptable outcomes
	unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.
Acid sulfate soils	
<p>PO7 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either:</p> <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	<p>AO7.1 <u>Clearing in land zone 1, land zone 2 or land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002, unless the <u>clearing</u> is to control or provide access to an animal or plant declared as a class 1 or 2 pest under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> for which there is a <u>pest eradication plan</u> in place, and it is carried out in accordance with that plan.</p>

Table 8.4.10: Extractive industry in a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
<p>PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for:</p> <ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3). 	No acceptable outcome is prescribed.
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, conserves <u>remnant vegetation</u> that are regional ecosystems, maintains ecological processes and does not cause land degradation, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material 	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>will be extracted within the term of the development approval</p> <p>(3) cannot occur until all required permits are obtained.</p>	
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural wetland to provide:</p> <p>(1) water quality by filtering sediments, nutrients and other pollutants</p> <p>(2) aquatic habitat</p> <p>(3) terrestrial habitat.</p>	No acceptable outcome is prescribed.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>maintain the current extent of assessable vegetation</u> associated with any <u>watercourse</u> to provide:</p> <p>(1) bank stability by protecting against bank erosion</p> <p>(2) water quality by filtering sediments, nutrients and other pollutants; and</p> <p>(3) aquatic habitat</p> <p>(4) terrestrial habitat.</p>	No acceptable outcome is prescribed.
Connectivity	
<p>PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are:</p> <p>(1) of sufficient size and configured in a way to maintain ecosystem functioning</p> <p>(2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes</p> <p>(3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties.</p>	No acceptable outcome is prescribed.
Salinity	
<p>PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation of groundwater</u>, surface water or soil. 	
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	No acceptable outcome is prescribed.
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity, <u>maintain the current extent of essential habitat</u> .	No acceptable outcome is prescribed.
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and conserves <u>remnant vegetation</u> that are regional ecosystems, <u>maintain the current extent</u> of regional ecosystems listed in Table 3.	No acceptable outcome is prescribed.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: <ol style="list-style-type: none"> (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals. 	No acceptable outcome is prescribed.

Table 8.4.11: Extractive Industry in an area that is not a key resource area

Performance outcomes	Acceptable outcomes
Limits to clearing for an extractive industry	
PO1 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, subject to the limitations required to meet PO2–PO10, <u>clearing</u> is limited to the extent that is necessary for one or more of the following:	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<ol style="list-style-type: none"> (1) dredging material from the bed of any waters (2) extracting rock, sand, clay, gravel, loam or other material from a pit or quarry (3) screening, washing, grinding, milling, sizing or separating material extracted from a pit or quarry (4) carrying out work that is the natural and ordinary consequence of carrying out work mentioned in subparagraphs (1), (2) and (3). 	
Clearing is staged	
<p>PO2 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems, does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>clearing</u>:</p> <ol style="list-style-type: none"> (1) is staged in line with operational needs that restrict <u>clearing</u> to the current operational area (2) is limited to the area from which material will be extracted within the term of the permit (3) cannot occur until all required permits are obtained. 	No acceptable outcome is prescribed.
Wetlands	
<p>PO3 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any natural <u>significant wetland</u> or natural <u>wetland</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat. 	<p>AO3.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any natural <u>wetland</u> (2) within 100 metres from any natural <u>wetland</u> (3) in any natural <u>significant wetland</u> (4) within 200 metres from any natural <u>significant wetland</u>.
Watercourses	
<p>PO4 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation, prevents the loss of biodiversity and maintains ecological processes, <u>assessable vegetation</u> associated with any <u>watercourse</u> is protected to maintain:</p> <ol style="list-style-type: none"> (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants 	<p>AO4.1 <u>Clearing</u> does not occur:</p> <ol style="list-style-type: none"> (1) in any <u>watercourse</u> (2) within the relevant distance stipulated in Table 1 of each high bank of each <u>watercourse</u>.

Performance outcomes	Acceptable outcomes
(3) aquatic habitat (4) terrestrial habitat.	
Connectivity	
PO5 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity and maintains ecological processes, areas of <u>mapped remnant vegetation</u> are retained that are: <ol style="list-style-type: none"> (1) of sufficient size and configured in a way to maintain ecosystem functioning (2) of sufficient size and configured in a way to remain in the landscape in spite of any threatening processes (3) located on the lot(s) that are the subject of the application to maintain connectivity to <u>mapped remnant vegetation</u> on adjacent properties. 	AO5.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 10 metres wide, or (2) 2 hectares <u>clearing</u> does not— <ol style="list-style-type: none"> (a) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (b) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres. OR AO 5.2 <u>Clearing</u> does not: <ol style="list-style-type: none"> (1) reduce areas of contiguous <u>mapped remnant vegetation</u> to less than 10 hectares (2) occur in areas of contiguous <u>mapped remnant vegetation</u> that are less than 10 hectares (3) reduce the width of <u>mapped remnant vegetation</u> to less than 200 metres (4) occur where the width of <u>mapped remnant vegetation</u> is less than 200 metres (5) reduce the total extent of <u>mapped remnant vegetation</u> to less than 30 per cent of the area of the lot(s) that are the subject of the application (6) occur where the total extent of <u>mapped remnant vegetation</u> is less than 30 per cent of the area of the lot(s) that are the subject of the application
Salinity	
PO6 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> does not contribute to: <ol style="list-style-type: none"> (1) <u>waterlogging</u>, or (2) the <u>salinisation</u> of <u>groundwater</u>, surface water or soil. 	AO6.1 Where <u>clearing</u> is less than: <ol style="list-style-type: none"> (1) 2 hectares, or (2) 10 metres wide <u>clearing</u> does not occur in any <u>discharge area</u> . OR AO6.2 <u>Clearing</u> does not occur: <ol style="list-style-type: none"> (1) in any <u>discharge area</u>, or (2) within 200 metres of any <u>discharge area</u>.
Conserving remnant vegetation that are endangered regional ecosystems and of concern regional ecosystems	
PO7 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are endangered regional ecosystems and of concern regional ecosystems, <u>maintain the current extent</u> of endangered regional ecosystems and of concern regional ecosystems.	AO7.1 <u>Clearing</u> : <ol style="list-style-type: none"> (1) does not occur in an endangered regional ecosystem or an of concern regional ecosystem that is listed in Table 2 (2) in an endangered regional ecosystem or an of concern regional ecosystem that is not listed in Table 2, only occurs where the <u>clearing</u> is less than 10 metres wide or 0.5 hectares.
Essential habitat	
PO8 To regulate the <u>clearing</u> of vegetation in a way that prevents the loss of biodiversity,	AO8.1 <u>Clearing</u> does not occur in an area shown as <u>essential habitat</u> on the <u>essential habitat map</u> .

Performance outcomes	Acceptable outcomes
maintain the current extent of essential habitat.	
Conservation status thresholds	
PO9 To regulate the <u>clearing</u> of vegetation in a way that conserves <u>remnant vegetation</u> that are regional ecosystems and prevents the loss of biodiversity, <u>maintain the current extent</u> of regional ecosystems listed in Table 3.	AO9.1 <u>Clearing</u> in a regional ecosystem listed in Table 3 does not occur unless the <u>clearing</u> is less than 2 hectares.
Acid sulfate soils	
PO10 To regulate the <u>clearing</u> of vegetation in a way that does not cause land degradation and maintains ecological processes, <u>clearing</u> activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	AO10.1 <u>Clearing</u> in <u>land zone 1</u> , <u>land zone 2</u> or <u>land zone 3</u> in areas below 5 metre Australian height datum follows management principles in accordance with the <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.

8.4.3 Reference tables

Table 1

Distance from the high banks of watercourses in which clearing cannot occur		
Stream order	Subregion	Distance from each high bank
1, 2, 3, or 4	The Wet Tropics bioregion and subregions 8.2 (Proserpine–Sarina Lowlands) and 8.6 (Debella) of the Central Queensland Coast bioregion	25 metres
1, 2, 3, or 4	All other subregions of the Central Queensland Coast bioregion	50 metres
5 or greater	The Wet Tropics bioregion and subregions 8.2 (Proserpine–Sarina Lowlands) and 8.6 (Debella) of the Central Queensland Coast bioregion	50 metres
5 or greater	All other subregions of the Central Queensland Coast bioregion	100 metres

Table 2

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems
3.3.2 Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
7.1.4 Mangrove and vine forest communities of the brackish zone
7.2.1 Mesophyll vine forest of very wet coastal lowlands on beach sands
7.2.2 Notophyll to microphyll vine forest. Species commonly include Cupaniopsis anacardioides, Diospyros geminata, Canarium australicum, Alphitonia excelsa, Acacia crassicaarpa, A. mangium, Hibiscus tiliaceus, Pleiogynium timorense, Chionanthus ramiflora, Blepharocarya involucrigera, Mimusops elengi, Polyalthia nitidissima, Pongamia pinnata, Geijera latifolia, Ficus opposita, Pouteria sericea, Terminalia muelleri, T. arenicola, Drypetes deplanchei, and Exocarpos latifolius
7.2.5 Mesophyll/notophyll vine forest of Syzygium forte subsp. forte on beach ridges and sand plains of beach origin
7.2.6 Mosaic of clumps of notophyll vine forest, sclerophyll spp. shrublands and open woodlands, and bare sand blows, on aeolian dunes
7.2.9 Melaleuca quinquenervia shrubland to closed forest, or Lepironia articulata open to closed sedgeland

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems

7.2.10 Shrubland, sedgeland and heath complex with <i>Thryptomene oligandra</i> and/or <i>Asteromyrtus</i> spp., +/- <i>Melaleuca quinquenervia</i>
7.3.3 Mesophyll vine forest with <i>Archontophoenix alexandrae</i>
7.3.4 Mesophyll vine forest with <i>Licuala ramsayi</i>
7.3.6 <i>Melaleuca dealbata</i> +/- <i>Melaleuca leucadendra</i> open forest
7.3.7 <i>Eucalyptus pellita</i> and <i>Corymbia intermedia</i> open forest to woodland (or vine forest with emergent <i>E. pellita</i> and <i>C. intermedia</i>)
7.3.10 Simple-complex mesophyll to notophyll vine forest
7.3.17 Complex mesophyll vine forest
7.3.20 <i>Corymbia intermedia</i> and <i>Syncarpia glomulifera</i> , or <i>C. intermedia</i> and <i>Eucalyptus pellita</i> , or <i>Syncarpia glomulifera</i> and <i>Allocasuarina</i> spp., or <i>E. cloeziana</i> , or <i>C. torelliana</i>
7.3.23 Simple-complex semi-deciduous notophyll to mesophyll vine forest on lowland alluvium
7.3.35 <i>Acacia mangium</i> and/or <i>A. celsa</i> and/or <i>A. polystachya</i> closed forest on alluvial plains
7.3.36 Complex mesophyll vine forest of high rainfall, cloudy uplands on alluvium
7.3.37 Complex semi-evergreen notophyll vine forest of uplands on alluvium
7.3.38 Complex notophyll vine forest with emergent <i>Agathis robusta</i> , on alluvial fans
7.3.42 <i>Eucalyptus grandis</i> open forest to woodland (or vine forest with emergent <i>E. grandis</i>)
7.3.49 Notophyll vine forest on rubble terraces of streams
7.8.3 Complex notophyll vine forest on moist basalt lowlands, foothills and uplands
7.8.11 Closed vineland of wind-disturbed vine forest on basalt
7.8.12 Complex notophyll vine forest dominated by <i>Backhousia bancroftii</i>
7.8.13 Simple notophyll vine forest of <i>Blepharocarya involucrigera</i> of high rainfall, cloudy uplands on basalt
7.8.14 Complex notophyll vine forest with emergent <i>Agathis robusta</i> , on basalt
7.8.15 <i>Eucalyptus grandis</i> open forest to woodland (or vine forest with <i>E. grandis</i> emergents)
7.11.2 Notophyll or mesophyll vine forest with <i>Archontophoenix alexandrae</i> or <i>Licuala ramsayi</i>
7.11.3 Semi-deciduous mesophyll vine forest on moist metamorphic foothill slopes
7.11.6 Simple mesophyll vine forest with <i>Syncarpia glomulifera</i> emergents on very wet to wet metamorphic lowlands and foothills
7.11.8 <i>Acacia polystachya</i> woodland to closed forest, or <i>Acacia mangium</i> and <i>Acacia celsa</i> open to closed forest
7.11.10 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills
7.11.14 Simple notophyll vine forest with <i>Eucalyptus grandis</i> emergents on moist metamorphic uplands
7.11.23 Complex mesophyll vine forest on fertile, well drained metamorphics of very wet and wet footslopes
7.11.24 Closed vineland of wind-disturbed vine forest, on metamorphics
7.11.25 Simple-complex mesophyll to notophyll vine forest
7.11.27 Simple microphyll vine-fern forest or microphyll vine-sedge forest of wet metamorphic uplands and highlands
7.11.28 Wind-sheared notophyll vine forest of exposed metamorphic ridge-crests and steep slopes
7.11.29 Microphyll to notophyll vine forests with <i>Ceratopetalum virchowii</i> and/or <i>Uromyrtus metrosideros</i> , <i>Flindersia bourbotiana</i> , <i>F. pimenteliana</i> and <i>Beilschmiedia oligandra</i> +/- emergent <i>Licuala ramsayi</i> and <i>Oraniopsis appendiculata</i> , and associated sedgelands
7.11.30 Simple notophyll vine forest of <i>Blepharocarya involucrigera</i> on metamorphics
7.11.31 <i>Eucalyptus resinifera</i> +/- <i>Eucalyptus portuensis</i> +/- <i>Syncarpia glomulifera</i> open forest to woodland (or vine forest with these species as emergents)

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems

7.11.32 <i>Syncarpia glomulifera</i> and/or <i>Allocasuarina</i> spp. +/- heathy understorey, woodland to tall woodland to open forest (or vine forest with these species as emergents)
7.11.36 <i>Allocasuarina littoralis</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> , <i>Xanthorrhoea johnsonii</i> shrubland
7.12.2 <i>Licuala ramsayi</i> dominated mesophyll vine forest on very wet poorly drained granite foothills
7.12.4 Mesophyll vine forest with <i>Syncarpia glomulifera</i> emergents on very wet granite and rhyolite lowlands and foothills
7.12.5 Simple mesophyll vine forest with <i>Eucalyptus pellita</i> emergents on very wet to wet granite lowlands and foothills
7.12.6 Semi-deciduous mesophyll vine forest on moist granite lowlands and foothills
7.12.9 <i>Acacia celsa</i> open to closed forest
7.12.10 Notophyll vine forest with emergent <i>Araucaria cunninghamii</i>
7.12.12 <i>Acacia mangium</i> and <i>A. celsa</i> open to closed forest or <i>A. polystachya</i> woodland to closed forest
7.12.13 Notophyll vine forest dominated by <i>Acacia melanoxylon</i> on cloudy wet granite and rhyolite uplands
7.12.17 Simple notophyll vine forest with <i>Corymbia torelliana</i> emergents on moist granite and rhyolite foothills and uplands
7.12.20 Simple microphyll vine-fern thicket
7.12.37 Rock pavements and seepage areas of wet lowlands, uplands and highlands of the eastern escarpment and central range (excluding high granite areas of Hinchinbrook Island and Bishops Peak) on granite and rhyolite, with <i>Allocasuarina</i> spp. shrublands
7.12.39 Complex mesophyll vine forest on fertile, well drained granites and rhyolites of very wet and wet lowlands, foothills and uplands
7.12.40 Closed vineland of wind-disturbed vine forest, on granites and rhyolites
7.12.41 <i>Podocarpus grayae</i> , <i>Callitris endlicheri</i> and <i>Acacia celsa</i> heathland/shrubland
7.12.42 Notophyll vine forest with <i>Flindersia brayleyana</i> and <i>Argyrodendron polyandrum</i> , on wet granite uplands of Great Palm Island
7.12.43 Simple notophyll vine forest dominated by <i>Stockwellia quadrifida</i> on granite
7.12.44 Simple notophyll vine forest dominated by <i>Blepharocarya involucrigera</i> on granite
7.12.45 Simple notophyll vine forest dominated by <i>Dryadodaphne</i> sp. (Mt Lewis B.P. Hyland+ RFK1496)
7.12.46 Microphyll vine forest with <i>Gossia bidwillii</i> +/- <i>Araucaria cunninghamii</i> , on steep rock granite talus and boulder slopes of the Palm Islands
7.12.47 Notophyll-microphyll semi-evergreen vine forest with <i>Argyrodendron polyandrum</i> emergents, on rhyolite
7.12.48 Wind-sheared notophyll vine forest of exposed granite and rhyolite ridge-crests and steep slopes
7.12.49 Notophyll vine forest and thicket with <i>Pouteria euphlexia</i> and <i>Podocarpus grayae</i> on granite
7.12.50 Simple microphyll vine-fern forest
7.12.51 <i>Eucalyptus resinifera</i> , <i>Syncarpia glomulifera</i> , <i>E. portuensis</i> , <i>Corymbia abergiana</i> , +/- <i>C. leptoloma</i> woodland
7.12.52 <i>Eucalyptus resinifera</i> , <i>Corymbia intermedia</i> , <i>Allocasuarina littoralis</i> , <i>Syncarpia glomulifera</i> , <i>E. drepanophylla</i> +/- <i>E. reducta</i> (Queensland stringybark) woodland
7.12.64 Heathlands with <i>Xanthorrhoea</i> spp., <i>Allocasuarina littoralis</i> , <i>Banksia plagiocarpa</i> (blue banksia) +/- <i>Leptospermum polygalifolium</i> +/- <i>Rhodomyrtus trineura</i> subsp. <i>trineura</i> , and associated rock pavement
7.12.68 Complex notophyll vine forest of cloudy moist to wet highlands on granite
8.2.2 Microphyll vine forest on coastal dunes
8.2.5 Notophyll feather palm vine forest dominated by <i>Archontophoenix cunninghamiana</i> on parabolic dunes
8.2.11 <i>Melaleuca</i> spp. woodland in parallel dune swales (wetlands)
8.3.1 Semi-deciduous notophyll/mesophyll vine forest fringing <u>watercourses</u> on alluvial plains
8.3.8 <i>Syncarpia glomulifera</i> , <i>Eucalyptus portuensis</i> , <i>Corymbia intermedia</i> open forest on sandy creek flats and granite outwash

Dense regional ecosystems and mid-dense wet sclerophyll, melaleuca, mangrove and wetland regional ecosystems
8.3.9 Complex notophyll vine forest on perched alluvials in valleys of undulating mountain ranges
8.3.10 Notophyll vine forest with variable dominants, on gently to moderately sloping alluvial fans adjacent to ranges
8.3.11 Melaleuca sp. aff. viridiflora closed forest to woodland in broad drainage areas (wetlands)
8.8.1 Complex notophyll vine forest on Tertiary basalt
8.10.1 Acacia julifera subsp. julifera and/or Eucalyptus spp. ± Corymbia spp. ± Allocasuarina luehmannii ± Acacia spp. open-forest to woodland on exposed slopes of islands, on Cretaceous sedimentary rocks
8.11.2 Notophyll microphyll vine forest ± Araucaria cunninghamii on low ranges on Permian sediments ± volcanics
8.11.10 Lophostemon confertus and/or Acacia spp. and/or Allocasuarina littoralis ± Corymbia spp. ± Eucalyptus spp. ± Melaleuca viridiflora low woodland to open-forest on exposed hillslopes of islands, on metamorphosed sediments
8.12.8 Eucalyptus montivaga and/or E. resinifera open forest on plateaus of high ranges on Mesozoic to Proterozoic igneous rocks
8.12.10 Lophostemon confertus ± Leptospermum neglectum ± Hibiscus divaricatus ± Callistemon pearsonii ± Bertya sharpeana shrubland or heathland on exposed plateaus of Cretaceous-Tertiary acid to intermediate volcanics, and Mesozoic to Proterozoic igneous rocks
8.12.16 Low microphyll vine forest to semi-evergreen vine thicket on drier sub coastal hills on Mesozoic to Proterozoic igneous rocks
8.12.17 Notophyll mossy evergreen vine forest on mountain slopes and summits subject to regular mist cover, on Mesozoic to Proterozoic igneous rocks
8.12.28 Low microphyll vine forest to semi-evergreen vine thicket with Acacia fasciculifera, on foothills of low, near-coastal ranges, on acid to intermediate volcanics
8.12.29 Lophostemon confertus ± Acacia leptostachya ± Acacia aulacocarpa ± Corymbia dallachiana ± Eucalyptus spp. ± Melaleuca viridiflora ± Allocasuarina littoralis shrubland to open forest on exposed hillslopes of islands with abundant rock at the surface, on Me
8.12.30 Notophyll mossy evergreen vine forest dominated by Ristantia waterhousei, on upper slopes and summits of mountains on rhyolite
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.11 Semi-evergreen vine thicket on alluvial plains

Table 3

Regional ecosystems that are at risk of the remnant extent falling below 30% of its pre-clearing extent, or having a remnant extent of less than 10 000 hectares

8.1.2 Sapphire open forbland to isolated clumps of forbs on salt pans and plains adjacent to mangroves. Estuarine <u>wetland</u>
7.3.5 Melaleuca quinquenervia open forest on very wet and wet poorly drained lowlands
7.8.1 Complex mesophyll vine forest on very wet, well drained basalt lowlands
7.8.4 Complex notophyll vine forest on cloudy wet basalt uplands and highlands
11.11.20 Eucalyptus platyphylla woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands

Table 4

Regional ecosystems where thinning cannot occur

3.3.2 Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
3.11.3 Simple evergreen notophyll vine forest on exposed metamorphic and granitic slopes

Regional ecosystems where thinning cannot occur

7.1.1 Mangrove forests on coastal lowland saline alluvial soils
7.1.2 Salt meadow/ herbfield on coastal lowland hyper-saline alluvial soils
7.1.3 <i>Eleocharis dulcis</i> swamp on poorly drained acid peat's
7.1.4 Mangrove and vine forest communities of the brackish zone
7.2.1 Mesophyll vine forest of very wet coastal lowlands on beach sands
7.2.2 Notophyll to microphyll vine forest. Species commonly include <i>Cupaniopsis anacardioides</i> , <i>Diospyros geminata</i> , <i>Canarium australianum</i> , <i>Alphitonia excelsa</i> , <i>Acacia crassicarpa</i> , <i>A. mangium</i> , <i>Hibiscus tiliaceus</i> , <i>Pleiogynium timorense</i> , <i>Chionanthus ramiflora</i> , <i>Blepharocarya involucrigera</i> , <i>Mimusops elengi</i> , <i>Polyalthia nitidissima</i> , <i>Pongamia pinnata</i> , <i>Geijera latifolia</i> , <i>Ficus opposita</i> , <i>Pouteria sericea</i> , <i>Terminalia muelleri</i> , <i>T. arenicola</i> , <i>Drypetes deplanchei</i> , and <i>Exocarpos latifolius</i>
7.2.5 Mesophyll/notophyll vine forest of <i>Syzygium forte</i> subsp. <i>forte</i> on beach ridges and sand plains of beach origin
7.2.6 Mosaic of clumps of notophyll vine forest, sclerophyll spp. shrublands and open woodlands, and bare sand blows, on aeolian dunes
7.2.10 Shrubland, sedgeland and heath complex with <i>Thryptomene oligandra</i> and/or <i>Asteromyrtus</i> spp., +/- <i>Melaleuca quinquenervia</i> on sandplains of beach origin
7.3.3 Mesophyll vine forest with <i>Archontophoenix alexandrae</i>
7.3.4 Mesophyll vine forest with <i>Licuala ramsayi</i>
7.3.10 Simple-complex mesophyll to notophyll vine forest
7.3.17 Complex mesophyll vine forest
7.3.23 Simple-complex semi-deciduous notophyll to mesophyll vine forest on lowland alluvium
7.3.35 <i>Acacia mangium</i> and/or <i>A. celsa</i> and/or <i>A. polystachya</i> closed forest on alluvial plains
7.3.36 Complex mesophyll vine forest of high rainfall, cloudy uplands on alluvium
7.3.37 Complex semi-evergreen notophyll vine forest of uplands on alluvium
7.3.38 Complex notophyll vine forest with emergent <i>Agathis robusta</i> , on alluvial fans
7.3.49 Notophyll vine forest on rubble terraces of streams
7.8.1 Complex mesophyll vine forest
7.8.2 Complex notophyll to mesophyll vine forest
7.8.3 Complex notophyll vine forest on moist basalt lowlands, foothills and uplands
7.8.4 Complex notophyll vine forest on cloudy wet basalt uplands and highlands
7.8.11 Closed vineland of wind-disturbed vine forest on basalt
7.8.12 Complex notophyll vine forest dominated by <i>Backhousia bancroftii</i>
7.8.13 Simple notophyll vine forest of <i>Blepharocarya involucrigera</i> of high rainfall, cloudy uplands on basalt
7.8.14 Complex notophyll vine forest with emergent <i>Agathis robusta</i> , on basalt
7.11.1 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills
7.11.2 Notophyll or mesophyll vine forest with <i>Archontophoenix alexandrae</i> or <i>Licuala ramsayi</i>
7.11.3 Semi-deciduous mesophyll vine forest on moist metamorphic foothill slopes
7.11.6 Simple mesophyll vine forest with <i>Syncarpia glomulifera</i> emergents on very wet to wet metamorphic lowlands and foothills
7.11.7 Complex notophyll vine forest with <i>Agathis robusta</i> emergents on moist metamorphic foothills and uplands
7.11.8 <i>Acacia polystachya</i> woodland to closed forest, or <i>Acacia mangium</i> and <i>Acacia celsa</i> open to closed forest
7.11.10 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills
7.11.12 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills
7.11.14 Simple notophyll vine forest with <i>Eucalyptus grandis</i> emergents on moist metamorphic uplands

Regional ecosystems where thinning cannot occur
7.11.23 Complex mesophyll vine forest on fertile, well drained metamorphics of very wet and wet footslopes
7.11.24 Closed vineland of wind-disturbed vine forest, on metamorphics
7.11.25 Simple-complex mesophyll to notophyll vine forest
7.11.26 Rock pavements with <i>Allocasuarina littoralis</i> and <i>Syncarpia glomulifera</i> open to closed shrublands or <i>Bombax ceiba</i> and <i>Cochlospermum gillivraei</i> open woodland, or <i>Acacia</i> spp. shrubland, on metamorphics
7.11.27 Simple microphyll vine-fern forest or microphyll vine-sedge forest of wet metamorphic uplands and highlands
7.11.28 Wind-sheared notophyll vine forest of exposed metamorphic ridge-crests and steep slopes
7.11.29 Microphyll to notophyll vine forests with <i>Ceratopetalum virchowii</i> and/or <i>Uromyrtus metrosideros</i> , <i>Flindersia bourjotiana</i> , <i>F. pimenteliana</i> and <i>Beilschmiedia oligandra</i> +/- emergent <i>Licuala ramsayi</i> and <i>Oraniopsis appendiculata</i> , and associated sedgeland
7.11.30 Simple notophyll vine forest of <i>Blepharocarya involucrigera</i> on metamorphics
7.11.36 <i>Allocasuarina littoralis</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> , shrubland with <i>Xanthorrhoea johnsonii</i> , on serpentinite foothills, with deep red soils
7.12.1 Mesophyll vine forest on very wet to wet, granite lowlands and foothills
7.12.2 <i>Licuala ramsayi</i> dominated mesophyll vine forest on very wet poorly drained granite foothills
7.12.4 Mesophyll vine forest with <i>Syncarpia glomulifera</i> emergents on very wet granite and rhyolite lowlands and foothills
7.12.5 Simple mesophyll vine forest with <i>Eucalyptus pellita</i> emergents on very wet to wet granite lowlands and foothills
7.12.6 Semi-deciduous mesophyll vine forest on moist granite lowlands and foothills
7.12.7 Complex notophyll vine forest with emergent <i>Agathis robusta</i> on moist granite foothills and uplands
7.12.9 <i>Acacia celsa</i> open to closed forest
7.12.10 Notophyll vine forest with emergent <i>Araucaria cunninghamii</i>
7.12.11 Notophyll semi-evergreen vine forest on moist to dry granite foothills and uplands
7.12.12 <i>Acacia mangium</i> and <i>A. celsa</i> open to closed forest or <i>A. polystachya</i> woodland to closed forest
7.12.13 Notophyll vine forest dominated by <i>Acacia melanoxylon</i> on cloudy wet granite and rhyolite uplands
7.12.16 Simple notophyll vine forest on cloudy wet granite and rhyolite uplands and highlands
7.12.17 Simple notophyll vine forest with <i>Corymbia torelliana</i> emergents on moist granite and rhyolite foothills and uplands
7.12.19 Simple microphyll vine forest on cloudy wet granite highlands
7.12.20 Simple microphyll vine-fern thicket
7.12.39 Complex mesophyll vine forest on fertile, well drained granites and rhyolites of very wet and wet lowlands, foothills and uplands
7.12.40 Closed vineland of wind-disturbed vine forest, on granites and rhyolites
7.12.41 <i>Podocarpus grayae</i> , <i>Callitris endlicheri</i> and <i>Acacia celsa</i> heathland/shrubland
7.12.42 Notophyll vine forest with <i>Flindersia brayleyana</i> and <i>Argyrodendron polyandrum</i> , on wet granite uplands of Great Palm Island
7.12.43 Simple notophyll vine forest dominated by <i>Stockwellia quadrifida</i> on granite
7.12.44 Simple notophyll vine forest dominated by <i>Blepharocarya involucrigera</i> on granite
7.12.45 Simple notophyll vine forest dominated by <i>Dryadodaphne</i> sp. (Mt Lewis B.P. Hyland+ RFK1496)
7.12.46 Microphyll vine forest with <i>Gossia bidwillii</i> +/- <i>Araucaria cunninghamii</i> , on steep rock granite talus and boulder slopes of the Palm Islands
7.12.47 Notophyll-microphyll semi-evergreen vine forest with <i>Argyrodendron polyandrum</i> emergents, on rhyolite
7.12.48 Wind-sheared notophyll vine forest of exposed granite and rhyolite ridge-crests and steep slopes
7.12.49 Notophyll vine forest and thicket with <i>Pouteria euphlebica</i> and <i>Podocarpus grayae</i> on granite

Regional ecosystems where thinning cannot occur
7.12.50 Simple microphyll vine-fern forest
7.12.54 Complex of shrublands and low open forests on wind-exposed granite and rhyolite coastal headlands and islands, on skeletal soils
7.12.57 Shrubland and low woodland mosaic with <i>Syncarpia glomulifera</i> , <i>Corymbia abergiana</i> , <i>Eucalyptus portuensis</i> , <i>Allocasuarina littoralis</i> , and <i>Xanthorrhoea johnsonii</i> , on moist and dry uplands and highlands on granite and rhyolite
7.12.64 Heathlands with <i>Xanthorrhoea</i> spp., <i>Allocasuarina littoralis</i> , <i>Banksia plagiocarpa</i> +/- <i>Leptospermum polygalifolium</i> +/- <i>Rhodomyrtus trineura</i> subsp. <i>trineura</i> , and associated rock pavements, of wet granite uplands and highlands of Hinchinbrook Island and the vicinity of Bishops Peak
7.12.65 Rock pavements or areas of skeletal soil, on granite and rhyolite, mostly of dry western or southern areas, often with shrublands to closed forests of <i>Acacia</i> spp. and/or <i>Lophostemon suaveolens</i> and/or <i>Allocasuarina littoralis</i> and/or <i>Eucalyptus lockyeri</i> subsp. <i>exuta</i>
7.12.66 Exposed rocky slopes on granite and rhyolite, with <i>Lophostemon confertus</i> low shrubland or low to medium closed forest
7.12.68 Complex notophyll vine forest of cloudy moist to wet highlands on granite
8.10.1 <i>Acacia julifera</i> subsp. <i>julifera</i> and/or <i>Eucalyptus</i> spp. ± <i>Corymbia</i> spp. ± <i>Allocasuarina luehmannii</i> ± <i>Acacia</i> spp. open-forest to woodland on exposed slopes of islands, on Cretaceous sedimentary rocks
8.1.1 Mangrove vegetation of marine clay plains and estuaries
8.11.10 <i>Lophostemon confertus</i> and/or <i>Acacia</i> spp. and/or <i>Allocasuarina littoralis</i> ± <i>Corymbia</i> spp. ± <i>Eucalyptus</i> spp. ± <i>Melaleuca viridiflora</i> low woodland to open
8.1.2 Sapphire open forland to isolated clumps of forbs on salt pans and plains adjacent to mangroves
8.11.9 Grassland, or <i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i> shrubland/ heathland with <i>Themeda triandra</i> and/or <i>Heteropogon contortus</i> on exposed rocky headlands on metamorphosed sediments, subject to strong sea-breezes and salt-laden winds
8.1.3 <i>Sporobolus virginicus</i> grassland on marine sediments
8.1.5 <i>Melaleuca</i> spp. and/or <i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> woodland to open forest with a ground stratum of salt tolerant grasses and sedges, usually in a narrow zone
8.2.2 Microphyll vine forest on coastal dunes
8.2.4 Wet heath complex on coastal sand plains and depressions derived from coastal dunes
8.2.5 Notophyll feather palm vine forest dominated by <i>Archontophoenix cunninghamiana</i> on parabolic dunes
8.3.1 Semi-deciduous notophyll/mesophyll vine forest fringing <u>watercourses</u> on alluvial plains
8.3.9 Complex notophyll vine forest on perched alluvials in valleys of undulating mountain ranges
8.3.10 Notophyll vine forest with variable dominants, on gently to moderately sloping alluvial fans adjacent to ranges
8.8.1 Complex notophyll vine forest on Tertiary basalt
8.11.2 Notophyll microphyll vine forest ± <i>Araucaria cunninghamii</i> on low ranges on Permian sediments ± volcanics
8.11.7 <i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i> and <i>Allocasuarina littoralis</i> shrubland on exposed metamorphic mountain tops
8.12.1 Complex notophyll vine forest often with <i>Acmena resa</i> and <i>Syzygium wesa</i> , of wet uplands on Mesozoic to Proterozoic igneous rocks
8.12.10 <i>Lophostemon confertus</i> ± <i>Leptospermum neglectum</i> ± <i>Hibiscus divaricatus</i> ± <i>Callistemon pearsonii</i> ± <i>Bertya sharpeana</i> shrubland or heathland on exposed plateaus of Cretaceous-Tertiary acid to intermediate volcanics, and Mesozoic to Proterozoic igneous rocks
8.12.11 Semi-deciduous microphyll vine forest/thicket with emergent <i>Araucaria cunninghamii</i> in coastal areas including islands, on Mesozoic to Proterozoic igneous rocks and Tertiary acid to intermediate volcanics and granite
8.12.16 Low microphyll vine forest to semi-evergreen vine thicket on drier sub coastal hills on Mesozoic to Proterozoic igneous rocks

Regional ecosystems where thinning cannot occur
8.12.17 Notophyll mossy evergreen vine forest on mountain slopes and summits subject to regular mist cover, on Mesozoic to Proterozoic igneous rocks
8.12.18 Notophyll to complex notophyll vine forest with <i>Argyrodendron polyandrum</i> ± <i>Argyrodendron</i> sp. (Whitsundays W.J. McDonald 5831) ± <i>Araucaria cunninghamii</i> , on near-coastal ranges and islands, on Mesozoic to Proterozoic igneous rocks
8.12.19 Complex notophyll feather palm vine forest with <i>Argyrodendron actinophyllum</i> subsp. <i>diversifolium</i> and sub canopy of <i>Myristica globosa</i> subsp. <i>muelleri</i> , on moist, low to moderate, coastal and sub coastal ranges on Mesozoic to Proterozoic igneous rocks
8.12.2 Notophyll to complex notophyll vine forest often with <i>Argyrodendron actinophyllum</i> subsp. <i>diversifolium</i> ± <i>A. polyandrum</i> , on drier uplands and coastal ranges on Mesozoic to Proterozoic igneous rocks
8.12.3 Notophyll rainforest/microphyll rainforest often with <i>Argyrodendron polyandrum</i> and <i>Paraserianthes toona</i> , ± <i>Araucaria cunninghamii</i> , on low to medium ranges on Mesozoic to Proterozoic igneous rocks
8.12.28 Low microphyll vine forest to semi-evergreen vine thicket with <i>Acacia fasciculifera</i> , on foothills of low, near-coastal ranges, on acid to intermediate volcanics
8.12.30 Notophyll mossy evergreen vine forest dominated by <i>Ristantia waterhousei</i> , on upper slopes and summits of mountains on rhyolite
8.5.7 <i>Melaleuca viridiflora</i> ± <i>Eucalyptus latisinensis</i> ± <i>Syncarpia glomulifera</i> ± <i>Allocasuarina littoralis</i> open woodland to open forest on Cainozoic sand plains of uncertain age and origin
9.12.8 Semi-evergreen vine thicket on rocky outcrops and shallow soils of acid volcanic rocks
9.12.34 Semi-evergreen vine thicket with <i>Araucaria cunninghamii</i> on steep hills on acid and intermediate volcanic rocks
9.4.1 <i>Eucalyptus cambageana</i> woodland with a shrub layer of <i>Eremphila mitchelli</i> , <i>Canthium oleifolium</i> , <i>Flindersia maculosa</i> and <i>Lysiphyllum</i> spp. on clay lenses in Cainozoic plains
9.4.2 <i>Eucalyptus persistens</i> or <i>E. brownii</i> open woodland with a shrub layer of <i>Eremphila mitchelli</i> , <i>Canthium oleifolium</i> , <i>Flindersia maculosa</i> and <i>Lysiphyllum</i> spp. on clay lenses in Cainozoic plains
9.4.3 <i>Acacia harpophylla</i> and <i>Lysiphyllum carronii</i> open woodland on Cainozoic clays
9.5.15 <i>Melaleuca monantha</i> ± <i>M. viridiflora</i> ± <i>Callitris intratropica</i> mixed low woodland on valley infill
9.5.16 <i>Eucalyptus tetradonta</i> ± <i>Erythropheum chlorostachys</i> woodland on Tertiary remnants
11.1.1 <i>Sporobolus virginicus</i> grassland on marine clay plains
11.1.2 Samphire forbland on marine clay plains
11.1.4 Mangrove forest/woodland on marine clay plains
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding
11.12.12 <i>Araucaria cunninghamii</i> woodland on igneous rocks (boulder-strewn coastal hills)

Table 5

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur
2.3.24 <i>Melaleuca</i> spp. woodland-open forest on sands in channels and on levees
3.3.14 <i>Melaleuca saligna</i> ± <i>M. viridiflora</i> , <i>Lophostemon suaveolens</i> woodland on drainage swamps
7.1.5 <i>Melaleuca viridiflora</i> or <i>Melaleuca</i> spp. +/- <i>Acacia</i> spp. +/- mangrove spp. shrubland, open woodland and open forest on plains adjacent to mangroves
7.2.8 <i>Melaleuca leucadendra</i> open forest to woodland on sands of beach origin

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur
7.2.9 Melaleuca quinquenervia shrubland to closed forest, or Lepironia articulata open to closed sedgeland on dune swales and swampy sandplains of beach origin
7.2.11 Melaleuca viridiflora +/- Lophostemon suaveolens +/- emergent Eucalyptus spp. woodland to open forest, or Melaleuca sp. aff. viridiflora open forest to woodland, on swampy sandplains of beach origin
7.3.1 Sedgeland (Cyperus spp., Eleocharis dulcis, Baumea spp., Scleria poiformis) and grassland (Ischaemum villosum, Imperata cylindrica, Cynodon dactylon) freshwater swamps of seasonally inundated coastal lowlands
7.3.2 Sedgeland/grassland in freshwater swamps of seasonally inundated tableland volcanic craters and alluvial depressions
7.3.5 Melaleuca quinquenervia open forest on very wet and wet poorly drained lowlands
7.3.6 Melaleuca leucadendra ± M. quinquenervia ± M. dealbata open forest, ± an under storey of vine forest species, on very wet poorly drained lowlands
7.3.7 Coastal floodplain Eucalyptus tereticornis/Melaleuca spp. open forest complex on moist to very wet poorly drained lowlands
7.3.25 Melaleuca leucadendra, M. fluviatilis, Corymbia tessellaris open forest with notophyll riparian vine forest species, on levees
7.3.26 Casuarina cunninghamiana riparian open forest
7.3.28 Riparian herbfield/shrubland on river and stream bed alluvia
7.3.29 Sedgelands and grasslands of permanently and semi-permanently inundated swamps, including areas of open water
7.3.30 Complex of fernlands and sedgelands with emergent rainforest pioneering spp., in permanently wet peat swamps of alluvial plains
7.3.31 Lepironia articulata sedgeland to open sedgeland, of permanently to semi-permanently inundated peat swamps of alluvial plains
7.3.33 Lakes within volcanic craters, including open water, and narrow shore-line sedge fringes
7.3.34 Melaleuca sp. aff. viridiflora open to closed forest on broad swampy drainage lines of alluvial plains
7.3.50 Melaleuca fluviatilis +/- vine forest species, open to closed forest, on alluvium fringing streams
7.11.42 Eucalyptus tereticornis, Pandanus sp., Lophostemon suaveolens, Melaleuca dealbata and E. pellita woodland to open forest
7.12.67 Gleichenia dicarpa, Gahnia sieberiana, Lycopodiella cernua, and Lycopodium deuterodensum closed fernland
8.1.4 Paspalum spp. and Fimbristylis ferruginea sedgeland/grassland (estuarine wetland). Includes areas of deep open water with clumps of Schoenoplectus litoralis ± Eleocharis dulcis
8.2.7 Melaleuca spp. and/or Lophostemon suaveolens and/or Eucalyptus robusta open woodland to open forest in wetlands associated with parabolic dunes
8.2.11 Melaleuca spp. woodland in parallel dune swales
8.3.3 Melaleuca leucadendra or M. fluviatilis ± Casuarina cunninghamiana open forest to woodland, fringing watercourses
8.3.4 Freshwater wetlands with permanent water and aquatic vegetation including Phragmites australis, Nymphaea gigantea, Nymphoides indica, Eleocharis spp., Cyperus spp., and Juncus spp.
8.3.8 Syncarpia glomulifera, Eucalyptus portuensis, Corymbia intermedia open forest on sandy creek flats and granite outwash
8.3.11 Melaleuca sp. aff. viridiflora closed forest to woodland in broad drainage areas
8.3.13 Eucalyptus tereticornis and/or Corymbia tessellaris and/or Melaleuca spp. open woodland to open forest on alluvial and old marine plains, often adjacent to estuarine areas
8.3.15 Open water in river channels, water holes and lagoons, and exposed stream bed and bars
9.3.1 Eucalyptus camaldulensis or E. tereticornis ± Casuarina cunninghamiana ± Melaleuca spp. fringing woodland on channels and levees. Generally on eastern flowing rivers

Regional ecosystems in which mechanical clearing for the purpose of thinning cannot occur

9.3.12 River beds and associated waterholes
9.3.13 <i>Melaleuca fluviatilis</i> and/or <i>M. argentea</i> ± <i>Eucalyptus camaldulensis</i> fringing woodland on channels and levees. Generally on western flowing rivers
9.3.14 <i>Melaleuca</i> spp. ± <i>Acacia</i> spp. ± <i>Syzygium</i> spp. ± <i>Leptospermum</i> spp. fringing woodland on channels and levees
9.3.15 <i>Eucalyptus tereticornis</i> ± <i>Casuarina cunninghamiana</i> ± <i>Melaleuca</i> spp. fringing woodland on channels and levees
11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines

Table 6

Immature tree densities required to be retained	
Structure (the structure category of each regional ecosystem is specified in the regional ecosystem description database)	Density of immature trees that must be retained for each 50 metre x 50 metre (0.25 hectare) area
Mid-dense	125
Sparse	75
Very sparse	50

Table 7

Clearing native vegetation from non-native woody species control	
Percentage of area covered by the non-native plant or declared weed	Clearing limitations
0–20% <u>non-native woody species crown cover</u>	No <u>clearing</u> of native vegetation.
>20% <u>non-native woody species crown cover</u>	<u>Clearing</u> : (a) of <u>mature trees</u> of native species does not occur (b) retains the densities of <u>immature trees</u> listed in Table 6.

Table 8

Dense regional ecosystems
3.3.2 Semi-deciduous mesophyll/notophyll vine forest. Occurs on alluvia
3.11.3 Simple evergreen notophyll vine forest on exposed metamorphic and granitic slopes
7.1.1 Mangrove low closed forest to open shrubland
7.1.4 Mangrove and vine forest communities of the brackish zone
7.2.1 Mesophyll vine forest of very wet coastal lowlands on beach sands
7.2.2 Notophyll to microphyll vine forest. Species commonly include <i>Cupaniopsis anacardioides</i> , <i>Diospyros geminata</i> , <i>Canarium australianum</i> , <i>Alphitonia excelsa</i> , <i>Acacia crassicarpa</i> , <i>A. mangium</i> , <i>Hibiscus tiliaceus</i> , <i>Pleiogynium timorense</i> , <i>Chionanthus ramiflora</i> , <i>Blepharocarya involucrigera</i> , <i>Mimusops elengi</i> , <i>Polyalthia nitidissima</i> , <i>Pongamia pinnata</i> , <i>Geijera latifolia</i> , <i>Ficus opposita</i> , <i>Pouteria sericea</i> , <i>Terminalia muelleri</i> , <i>T. arenicola</i> , <i>Drypetes deplanchei</i> , and <i>Exocarpos latifolius</i>
7.2.5 Mesophyll/notophyll vine forest of <i>Syzygium forte</i> subsp. <i>forte</i> on beach ridges and sand plains of beach origin
7.2.6 Mosaic of clumps of notophyll vine forest, sclerophyll spp. shrublands and open woodlands, and bare sand blows, on aeolian dunes
7.2.9 <i>Melaleuca quinquenervia</i> shrubland to closed forest, or <i>Lepironia articulata</i> open to closed sedgeland

Dense regional ecosystems

7.2.10 Shrubland, sedgeland and heath complex with *Thryptomene oligandra* and/or *Asteromyrtus* spp., +/- *Melaleuca quinquenervia*

7.3.3 Mesophyll vine forest with *Archontophoenix alexandrae*

7.3.4 Mesophyll vine forest with *Licuala ramsayi*

7.3.5 *Melaleuca quinquenervia* and/or *Melaleuca cajuputi* closed forest to shrubland on poorly drained alluvial plains

7.3.10 Simple-complex mesophyll to notophyll vine forest

7.3.17 Complex mesophyll vine forest

7.3.23 Simple-complex semi-deciduous notophyll to mesophyll vine forest on lowland alluvium

7.3.35 *Acacia mangium* and/or *A. celsa* and/or *A. polystachya* closed forest on alluvial plains

7.3.36 Complex mesophyll vine forest of high rainfall, cloudy uplands on alluvium

7.3.37 Complex semi-evergreen notophyll vine forest of uplands on alluvium

7.3.38 Complex notophyll vine forest with emergent *Agathis robusta*, on alluvial fans

7.3.49 Notophyll vine forest on rubble terraces of streams

7.8.1 Complex mesophyll vine forest

7.8.2 Complex notophyll to mesophyll vine forest

7.8.3 Complex notophyll vine forest on moist basalt lowlands, foothills and uplands

7.8.4 Complex notophyll vine forest on cloudy wet basalt uplands and highlands

7.8.11 Closed vineland of wind-disturbed vine forest on basalt

7.8.12 Complex notophyll vine forest dominated by *Backhousia bancroftii*

7.8.13 Simple notophyll vine forest of *Blepharocarya involucrigera* of high rainfall, cloudy uplands on basalt

7.8.14 Complex notophyll vine forest with emergent *Agathis robusta*, on basalt

7.11.1 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills

7.11.2 Notophyll or mesophyll vine forest with *Archontophoenix alexandrae* or *Licuala ramsayi*

7.11.3 Semi-deciduous mesophyll vine forest on moist metamorphic foothill slopes

7.11.6 Simple mesophyll vine forest with *Syncarpia glomulifera* emergents on very wet to wet metamorphic lowlands and foothills

7.11.7 Complex notophyll vine forest with *Agathis robusta* emergents on moist metamorphic foothills and uplands

7.11.8 *Acacia polystachya* woodland to closed forest, or *Acacia mangium* and *Acacia celsa* open to closed forest

7.11.10 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills

7.11.12 Mesophyll vine forest on very wet to wet metamorphic lowlands and foothills

7.11.14 Simple notophyll vine forest with *Eucalyptus grandis* emergents on moist metamorphic uplands

7.11.23 Complex mesophyll vine forest on fertile, well drained metamorphics of very wet and wet footslopes

7.11.24 Closed vineland of wind-disturbed vine forest, on metamorphics

7.11.25 Simple-complex mesophyll to notophyll vine forest

7.11.27 Simple microphyll vine-fern forest or microphyll vine-sedge forest of wet metamorphic uplands and highlands

7.11.28 Wind-sheared notophyll vine forest of exposed metamorphic ridge-crests and steep slopes

7.11.29 Microphyll to notophyll vine forests with *Ceratopetalum virchowii* and/or *Uromyrtus metrosideros*, *Flindersia bourjotiana*, *F. pimenteliana* and *Beilschmiedia oligandra* +/- emergent *Licuala ramsayi* and *Oraniopsis appendiculata*, and associated sedgelands

7.11.30 Simple notophyll vine forest of *Blepharocarya involucrigera* on metamorphics

7.11.36 *Allocasuarina littoralis*, *Corymbia intermedia*, *Lophostemon suaveolens*, *Xanthorrhoea johnsonii* shrubland

Dense regional ecosystems
7.12.1 Mesophyll vine forest on very wet to wet, granite lowlands and foothills
7.12.2 <i>Licuala ramsayi</i> dominated mesophyll vine forest on very wet poorly drained granite foothills
7.12.4 Mesophyll vine forest with <i>Syncarpia glomulifera</i> emergents on very wet granite and rhyolite lowlands and foothills
7.12.5 Simple mesophyll vine forest with <i>Eucalyptus pellita</i> emergents on very wet to wet granite lowlands and foothills
7.12.6 Semi-deciduous mesophyll vine forest on moist granite lowlands and foothills
7.12.7 Complex notophyll vine forest with emergent <i>Agathis robusta</i> on moist granite foothills and uplands
7.12.9 <i>Acacia celsa</i> open to closed forest.
7.12.10 Notophyll vine forest with emergent <i>Araucaria cunninghamii</i>
7.12.11 Notophyll semi-evergreen vine forest on moist to dry granite foothills and uplands
7.12.12 <i>Acacia mangium</i> and <i>A. celsa</i> open to closed forest or <i>A. polystachya</i> woodland to closed forest
7.12.13 Notophyll vine forest dominated by <i>Acacia melanoxylon</i> on cloudy wet granite and rhyolite uplands
7.12.16 Simple notophyll vine forest on cloudy wet granite and rhyolite uplands and highlands
7.12.17 Simple notophyll vine forest with <i>Corymbia torelliana</i> emergents on moist granite and rhyolite foothills and uplands
7.12.19 Simple microphyll vine forest on cloudy wet granite highlands
7.12.20 Simple microphyll vine-fern thicket
7.12.37 Rock pavements and seepage areas of wet lowlands, uplands and highlands of the eastern escarpment and central range (excluding high granite areas of Hinchinbrook Island and Bishops Peak) on granite and rhyolite, with <i>Allocasuarina</i> spp. shrublands
7.12.39 Complex mesophyll vine forest on fertile, well drained granites and rhyolites of very wet and wet lowlands, foothills and uplands
7.12.40 Closed vineland of wind-disturbed vine forest, on granites and rhyolites
7.12.41 <i>Podocarpus grayae</i> , <i>Callitris endlicheri</i> and <i>Acacia celsa</i> heathland/shrubland
7.12.42 Notophyll vine forest with <i>Flindersia brayleyana</i> and <i>Argyrodendron polyandrum</i> , on wet granite uplands of Great Palm Island
7.12.43 Simple notophyll vine forest dominated by <i>Stockwellia quadrifida</i> on granite
7.12.44 Simple notophyll vine forest dominated by <i>Blepharocarya involucrigera</i> on granite
7.12.45 Simple notophyll vine forest dominated by <i>Dryadodaphne</i> sp. (Mt Lewis B.P. Hyland+ RFK1496)
7.12.46 Microphyll vine forest with <i>Gossia bidwillii</i> +/- <i>Araucaria cunninghamii</i> , on steep rock granite talus and boulder slopes of the Palm Islands
7.12.47 Notophyll-microphyll semi-evergreen vine forest with <i>Argyrodendron polyandrum</i> emergents, on rhyolite
7.12.48 Wind-sheared notophyll vine forest of exposed granite and rhyolite ridge-crests and steep slopes
7.12.49 Notophyll vine forest and thicket with <i>Pouteria euphlebica</i> and <i>Podocarpus grayae</i> on granite
7.12.50 Simple microphyll vine-fern forest
7.12.64 Heathlands with <i>Xanthorrhoea</i> spp., <i>Allocasuarina littoralis</i> , <i>Banksia plagiocarpa</i> (blue banksia) +/- <i>Leptospermum polygalifolium</i> +/- <i>Rhodomyrtus trineura</i> subsp. <i>trineura</i> , and associated rock pavement
7.12.68 Complex notophyll vine forest of cloudy moist to wet highlands on granite
8.2.2 Microphyll vine forest on coastal dunes
8.2.4 Wet heath complex on coastal sand plains and depressions derived from coastal dunes
8.2.5 Notophyll feather palm vine forest dominated by <i>Archontophoenix cunninghamiana</i> on parabolic dunes
8.3.1 Semi-deciduous notophyll/mesophyll vine forest fringing <u>watercourses</u> on alluvial plains
8.3.9 Complex notophyll vine forest on perched alluvium in valleys of undulating mountain ranges
8.3.10 Notophyll vine forest with variable dominants, on gently to moderately sloping alluvial fans adjacent to ranges

Dense regional ecosystems
8.8.1 Complex notophyll vine forest on Tertiary basalt
8.10.1 <i>Acacia julifera</i> subsp. <i>julifera</i> and/or <i>Eucalyptus</i> spp. ± <i>Corymbia</i> spp. ± <i>Allocasuarina luehmanna</i> ± <i>Acacia</i> spp. open-forest to woodland on exposed slopes of islands, on Cretaceous sedimentary rocks
8.11.10 <i>Lophostemon confertus</i> and/or <i>Acacia</i> spp. and/or <i>Allocasuarina littoralis</i> ± <i>Corymbia</i> spp. ± <i>Eucalyptus</i> spp. ± <i>Melaleuca viridiflora</i> low woodland to open
8.11.2 Notophyll microphyll vine forest ± <i>Araucaria cunninghamii</i> on low ranges on Permian sediments ± volcanics
8.12.1 Complex notophyll vine forest often with <i>Acmena resa</i> and <i>Syzygium wesa</i> , of wet uplands on Mesozoic to Proterozoic igneous rocks
8.12.2 Notophyll to complex notophyll vine forest often with <i>Argyrodendron actinophyllum</i> subsp. <i>diversifolium</i> ± <i>A. polyandrum</i> , on drier uplands and coastal ranges on Mesozoic to Proterozoic igneous rocks
8.12.3 Notophyll rainforest/microphyll rainforest often with <i>Argyrodendron polyandrum</i> and <i>Paraserianthes toona</i> , ± <i>Araucaria cunninghamii</i> , on low to medium ranges on Mesozoic to Proterozoic igneous rocks
8.12.10 <i>Lophostemon confertus</i> ± <i>Leptospermum neglectum</i> ± <i>Hibiscus divaricatus</i> ± <i>Callistemon pearsonii</i> ± <i>Bertya sharpeana</i> shrubland or heathland on exposed plateaus of Cretaceous-Tertiary acid to intermediate volcanics, and Mesozoic to Proterozoic igneous rocks
8.12.11 Semi-deciduous microphyll vine forest/thicket with emergent <i>Araucaria cunninghamii</i> in coastal areas including islands, on Mesozoic to Proterozoic igneous rocks and Tertiary acid to intermediate volcanics and granite
8.12.16 Low microphyll vine forest to semi-evergreen vine thicket on drier sub coastal hills on Mesozoic to Proterozoic igneous rocks
8.12.17 Notophyll mossy evergreen vine forest on mountain slopes and summits subject to regular mist cover, on Mesozoic to Proterozoic igneous rocks
8.12.18 Notophyll to complex notophyll vine forest with <i>Argyrodendron polyandrum</i> ± <i>Argyrodendron</i> sp. (<i>Whitsundays W.J. McDonald 5831</i>) ± <i>Araucaria cunninghamii</i> , on near-coastal ranges and islands, on Mesozoic to Proterozoic igneous rocks
8.12.19 Complex notophyll feather palm vine forest with <i>Argyrodendron actinophyllum</i> subsp. <i>diversifolium</i> and sub canopy of <i>Myristica globosa</i> subsp. <i>muelleri</i> , on moist, low to moderate, coastal and sub coastal ranges on Mesozoic to Proterozoic igneous rocks
8.12.28 Low microphyll vine forest to semi-evergreen vine thicket with <i>Acacia fasciculifera</i> , on foothills of low, near-coastal ranges, on acid to intermediate volcanics
8.12.29 <i>Lophostemon confertus</i> ± <i>Acacia leptostachya</i> ± <i>Acacia aulacocarpa</i> ± <i>Corymbia dallachiana</i> ± <i>Eucalyptus</i> spp. ± <i>Melaleuca viridiflora</i> ± <i>Allocasuarina littoralis</i> shrubland to open forest on exposed hillslopes of islands with abundant rock at the surface, on Mesozoic to Proterozoic igneous rocks, and Tertiary acid to intermediate volcanics
8.12.30 Notophyll mossy evergreen vine forest dominated by <i>Ristantia waterhousei</i> , on upper slopes and summits of mountains on rhyolite
9.12.8 Semi-evergreen vine thicket on rocky outcrops and shallow soils of acid volcanic rocks
9.12.34 Semi-evergreen vine thicket with <i>Araucaria cunninghamii</i> on steep hills on acid and intermediate volcanic rocks
11.2.3 Microphyll vine forest on sandy beach ridges and dune swales
11.3.11 Semi-evergreen vine thicket on alluvial plains
11.11.5 Microphyll vine forest ± <i>Araucaria cunninghamii</i> on old sedimentary rocks with varying degrees of metamorphism and folding

Table 9

Fodder species

Common name	Scientific name
Mulga	<i>Acacia aneura</i>
Ironwood	<i>Acacia excelsa</i>
Myall	<i>Acacia pendula</i>
Red ash	<i>Alphitonia excelsa</i>
Leopardwood	<i>Flindersia maculosa</i>
Wilga, Tree wilga	<i>Geijera parviflora</i>
Umbrella mulga	<i>Acacia cibaria</i> (<i>Acacia brachystachya</i>)
Bastard (turpentine) mulga	<i>Acacia stowardii</i>

Table 10

Mature tree size limits	
Genus	Diameter at 1.3 metres high (add the diameter of all stems for multi-stemmed plants)
<i>Eucalyptus</i> , <i>Corymbia</i> , <i>Angophora</i> , <i>Lophostemon</i>	>40 centimetres
Genera other than <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Angophora</i> and <i>Lophostemon</i>	>20 centimetres

Table 11

Size classes	
Class	Diameter at breast height over bark
1	<5 centimetres
2	5–10 centimetres
3	>10–20 centimetres
4	>20–40 centimetres

Table 12

Wetland regional ecosystems
3.3.14 <i>Melaleuca saligna</i> ± <i>M. viridiflora</i> , <i>Lophostemon suaveolens</i> woodland on drainage swamps
7.1.5 <i>Melaleuca viridiflora</i> or <i>Melaleuca</i> spp. +/- <i>Acacia</i> spp. +/- mangrove spp. shrubland, open woodland and open forest on plains adjacent to mangroves
7.2.8 <i>Melaleuca leucadendra</i> open forest to woodland on sands of beach origin
7.2.9 <i>Melaleuca quinquenervia</i> shrubland to closed forest, or <i>Lepironia articulata</i> open to closed sedgeland on dune swales and swampy sandplains of beach origin
7.2.11 <i>Melaleuca viridiflora</i> +/- <i>Lophostemon suaveolens</i> +/- emergent <i>Eucalyptus</i> spp. woodland to open forest, or <i>Melaleuca</i> sp. aff. <i>viridiflora</i> open forest to woodland, on swampy sandplains of beach origin
7.3.1 Sedgeland (<i>Cyperus</i> spp., <i>Eleocharis dulcis</i> , <i>Baumea</i> spp., <i>Scleria poiformis</i>) and grassland (<i>Ischaemum villosum</i> , <i>Imperata cylindrica</i> , <i>Cynodon dactylon</i>) freshwater swamps of seasonally inundated coastal lowlands
7.3.2 Sedgeland/grassland in freshwater swamps of seasonally inundated tableland volcanic craters and alluvial depressions
7.3.5 <i>Melaleuca quinquenervia</i> open forest on very wet and wet poorly drained lowlands
7.3.6 <i>Melaleuca leucadendra</i> ± <i>M. quinquenervia</i> ± <i>M. dealbata</i> open forest, ± an under storey of vine forest species, on very wet

Wetland regional ecosystems	
poorly drained lowlands	
7.3.7	Coastal floodplain <i>Eucalyptus tereticornis</i> / <i>Melaleuca</i> spp. open forest complex on moist to very wet poorly drained lowlands
7.3.28	Rivers and streams including riparian herbfield and shrubland on river and stream bed alluvium, and rock within stream beds
7.3.29	Sedgeland and grasslands of permanently and semi-permanently inundated swamps, including areas of open water
7.3.30	Complex of fernlands and sedgelands with emergent rainforest pioneering spp., in permanently wet peat swamps of alluvial plains
7.3.31	<i>Lepironia articulata</i> sedgeland to open sedgeland, of permanently to semi-permanently inundated peat swamps of alluvial plains
7.3.33	Lakes within volcanic craters, including open water, and narrow shore-line sedge fringes
7.3.34	<i>Melaleuca</i> sp. aff. <i>viridiflora</i> open to closed forest on broad swampy drainage lines of alluvial plains
7.11.42	<i>Eucalyptus tereticornis</i> , <i>Pandanus</i> sp., <i>Lophostemon suaveolens</i> , <i>Melaleuca dealbata</i> and <i>E. pellita</i> woodland to open forest, in perched drainage areas on peats on metamorphic rocks
7.12.67	<i>Gleichenia dicarpa</i> , <i>Gahnia sieberiana</i> , <i>Lycopodiella cernua</i> , <i>Lycopodium deuterodensum</i> closed fernland of granite highlands, on Thornton Peak and Mt Bartle Frere
8.1.4	<i>Paspalum</i> spp. and <i>Fimbristylis ferruginea</i> sedgeland/grassland (estuarine wetland). Includes areas of deep open water with clumps of <i>Schoenoplectus litoralis</i> ± <i>Eleocharis dulcis</i>
8.2.7	<i>Melaleuca</i> spp. and/or <i>Lophostemon suaveolens</i> and/or <i>Eucalyptus robusta</i> open woodland to open forest in wetlands associated with parabolic dunes
8.2.11	<i>Melaleuca</i> spp. woodland in parallel dune swales
8.3.4	Freshwater wetlands with permanent water and aquatic vegetation including <i>Phragmites australis</i> , <i>Nymphaea gigantea</i> , <i>Nymphoides indica</i> , <i>Eleocharis</i> spp., <i>Cyperus</i> spp., and <i>Juncus</i> spp.
8.3.11	<i>Melaleuca</i> sp. aff. <i>viridiflora</i> closed forest to woodland in broad drainage areas
8.3.13	<i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> and/or <i>Melaleuca</i> spp. open woodland to open forest on alluvial and old marine plains, often adjacent to estuarine areas
8.3.15	Open water in river channels, water holes and lagoons, and exposed stream bed and bars
9.3.12	River beds and associated waterholes

Table 13

Soil stability and soils characteristics	
Soil stability class*	Soil characteristics
Stable	Soils that are Organosols (peats, organic soils), Calcarosols, Dermosols with a soil depth greater than 25 centimetres (structured loams, prairie soils, renzinas, red and yellow podzolics), Ferrosols (krasnozems, eucrozems, xanthozems), non saline Hydrosols (humic gleys), Podosols (podsols, humus podsols, coloured sands), Rudosols with a soil depth greater than 25 centimetres (lithosols, shallow stony soils), Tenosols with a soil depth greater than 25 centimetres (lithosols, alluvial soils, earthy sands) OR Soils with no <u>dispersible</u> layers OR

Soil stability and soils characteristics	
	Soils with <u>dispersible</u> layers where the <u>dispersible</u> layer is located at a depth greater than 45 centimetres
Unstable	Soils that are Chromosols (podzolics, acid and neutral texture contrast soils), Dermosols with a soil depth less than 25 centimetres, saline Hydrosols (Solonchaks), Kandosols (red, yellow and grey earths), Rudosols with a soil depth less than 25 centimetres, Tenosols with a soil depth less than 25 centimetres, Vertosols (cracking clays, black, grey, red and brown), Kurosols (soloths, podzolics) OR Soils with a <u>dispersible</u> layer located between 25 and 45 centimetres deep OR Soils less than 45 centimetres deep
Very unstable	Soils that are Sodosols (solodics, solodised solonetz) OR Soils with a <u>dispersible</u> layer located less than 25 centimetres deep OR Soils less than 25 centimetres deep

*Where a soil meets the characteristics of two soil stability classes then the less stable class must be used.

8.4.4 Figures

Figure 1: Location of Coastal bioregions

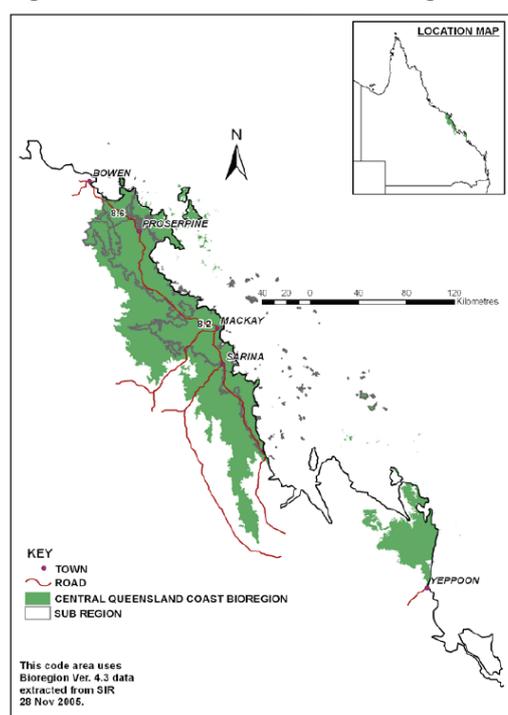
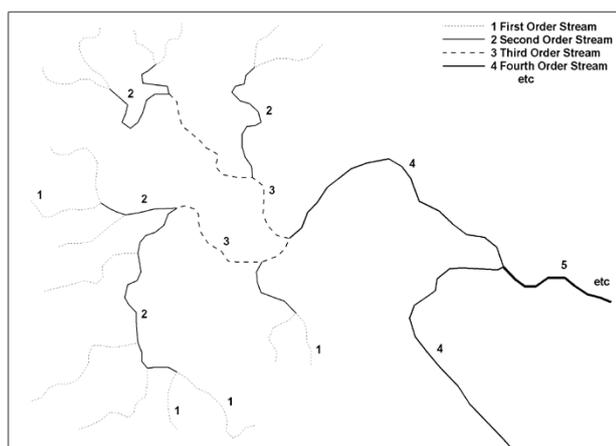


Figure 2: Diagrammatic view of stream ordering

When two streams of the same order join, the resulting watercourse becomes one stream order larger. If two streams of different orders join, the resultant stream order is that of the larger stream.



8.4.5 Glossary of terms

Aerial application is application by aircraft.

Application area is the area identified as proposed for clearing in the property vegetation management plan.

Assessable vegetation is vegetation in which clearing is assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009 and not listed under Schedule 24 of the Sustainable Planning Regulation 2009 as clearing that is not assessable development under Schedule 3, Part 1, Table 4, Item 1 of the Sustainable Planning Regulation 2009.

Clearing to clear, for vegetation:

- (1) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining, but
- (2) does not include destroying standing vegetation by stock, or lopping a tree.

Discharge area is an area identified as a discharge area by an assessment process that is consistent with the document: *Salinity Management Handbook*, Queensland's Department of Natural Resources, 1997.

Dispersible is a soil that dissolves into its constituent particles—clay, silt, sand—when immersed in distilled water, determined after a period of 2 hours.

Essential habitat See the *Vegetation Management Act 1999*, section 20AC.

Editor's note: **Essential habitat**, for protected wildlife, means an area of vegetation shown on the regional ecosystem map or remnant map as remnant vegetation—

- (1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
- (2) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat database means a database, listing essential habitat factors for protected wildlife, certified by the chief executive of the *Vegetation Management Act 1999* as an essential habitat database.

Essential habitat factors are for protected wildlife, is a component of the wildlife's habitat, including for example, a landform, pollinator, regional ecosystem, soil and water, that is necessary or desirable for the wildlife at any stage of its lifecycle.

Essential habitat map see the *Vegetation Management Act 1999*

Editor's note: An essential habitat map is a map certified by the chief executive as the essential habitat map for the State and showing, for the State, areas the chief executive of the *Vegetation Management Act 1999* reasonably believes are areas of essential habitat or essential regrowth habitat for protected wildlife.

Essential management means clearing native vegetation:

- (1) for establishing or maintaining a necessary firebreak to protect infrastructure other than a fence, road or vehicular track, if the maximum width of the firebreak is equivalent to 1.5 times the height of the tallest vegetation adjacent to the infrastructure, or 20m, whichever is the greater, or
- (2) for establishing a necessary fire management line if the maximum width of the clearing for the fire management line is 10m, or
- (3) necessary to remove or reduce the imminent risk that the vegetation poses of serious personal injury or damage to infrastructure, or
- (4) by fire under the *Fire and Rescue Service Act 1990* to reduce hazardous fuel load, or
- (5) necessary to maintain infrastructure including any core airport infrastructure, buildings, fences, helipads, roads, stockyards, vehicular tracks, watering facilities and constructed drains other than contour banks, other than to source construction material; or
- (6) for maintaining a garden or orchard, other than clearing predominant canopy trees to maintain underplantings established within remnant vegetation, or
- (7) on land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber to repair existing infrastructure on the land, if:
 - (a) the infrastructure is in need of immediate repair
 - (b) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (c) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (8) by the owner on freehold land to source construction timber to maintain infrastructure on any land of the owner, if:
 - (a) the clearing does not cause land degradation as defined under the *Vegetation Management Act 1999*; and
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Editor's note: Fodder harvesting is the clearing of vegetation predominantly consisting of fodder species—

- (1) necessary to provide fodder for stock; and
- (2) carried out in a way that—
 - (a) conserves the vegetation in perpetuity; and
 - (b) conserves the regional ecosystem in which the vegetation is situated; and
 - (c) results in the woody biomass of the cleared vegetation remaining where it is cleared.

Fodder species are only those species listed in Table 8.

Groundwater is water occurring below the surface of the ground.

Gully erosion is the removal of soil by water creating large incised channels more than 30 centimetres in depth.

Hard-setting is a characteristic of soils in which a compact, hard, apedal condition forms on drying, but softens in wetting. When dry, the material is hard below any surface crust or flake that may occur, and is not disturbed or indented by pressure of the forefinger.

Immature trees are all woody plants that are greater than 2 metres high, other than mature trees.

Key resource area is an area identified as a key resource area in the *State Planning Policy*.

Land Zone 1 quaternary estuarine and marine deposits subject to periodic inundation by saline or brackish marine waters. Includes mangroves, salt pans, off-shore tidal flats and tidal beaches.

Land Zone 2 quaternary coastal dunes and beach ridges. Includes degraded dunes, sand plains and swales, lakes and swamps enclosed by dunes, as well as coral and sand cays.

Land Zone 3 quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo- estuarine deposits. Also includes estuarine plains currently under fresh water influence, inland lakes and associated dune systems (lunettes).

Land Zone 5 extensive, uniform near level or gently undulating Cainozoic plains with sandy or loamy soils. Includes dissected remnants of these surfaces. Also includes plains with sandy or loamy soils of uncertain origin, and plateau remnants with deep soils usually overlying duricrust.

Land Zone 7 cainozoic duricrusts formed on a variety of rock types, usually forming mesas or scarps. Includes exposed ferruginous, siliceous or mottled horizons and associated talus and colluvium, and remnants of these features, for example low stony rises on downs.

Maintain the current extent requires applicants to:

- (1) not clear the regional ecosystem, or
- (2) if subparagraph (1) is not reasonably practicable, ensure the structure and function of the regional ecosystem is maintained, or
- (3) if subparagraphs (1) and (2) are not reasonably practicable, provide an offset as a condition of the development approval.

Mapped remnant vegetation is vegetation shown on a regional ecosystem map or remnant map as remnant vegetation.

Mass movement is a landslip, earthflow, landslide, rock avalanche or soil creep.

Mature trees are trees and shrubs which are over the size limits specified in Table 9.

Mechanical clearing is the clearing of vegetation using machinery which disturbs the soil surface or uproots woody vegetation.

Most recent suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery— less than 10 years old—that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Non-native woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the non-native woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre (0.25 hectare) area.

Past suitable imagery is aerial photography or high resolution (less than 1 metre pixel size) satellite imagery—greater than 10 years old—that shows the application area at a scale and clarity to allow for accurate measurement of woody species crown cover.

Editor's note: Information on aerial photography services offered by DNRM is available from: www.dnrm.qld.gov.au

Pest eradication plan is a plan developed that aims to eradicate a plant or animal declared as a Class 1 or 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002* and that has been approved by both the chief executive that administers the *Land Protection (Pest and Stock Route Management) Act 2002* and the chief executive that administers the *Vegetation Management Act 1999*. For the purpose of this definition, Class 2 pests are outlier populations of Class 2 pests that occur outside of accepted state government containment lines.

Protected wildlife see the *Nature Conservation Act 1992*

Editor's note: Protected wildlife means native wildlife prescribed under the *Nature Conservation Act 1992* as:

- (3) Extinct in the wild wildlife, or
- (4) Endangered wildlife, or
- (5) Vulnerable wildlife,
- (6) Rare wildlife, or
- (7) Near threatened wildlife, or
- (8) Least concern wildlife.

Range of sizes are the size classes set out in Table 10.

Regional ecosystem description database is a database prepared by the Queensland Herbarium.

Editor's note: Regional ecosystem description database can be accessed at: www.dehp.qld.gov.au

Regional ecosystem map see the *Vegetation Management Act 1999*.

Editor's note: **Regional ecosystem map** is a map certified by the chief executive of the *Vegetation Management Act 1999* as the regional ecosystem map for a part of the State and showing for the part:

- (1) areas of **remnant vegetation** that are:
 - (a) an endangered regional ecosystem or
 - (b) an of concern regional ecosystem or
 - (c) a least concern regional ecosystem
- (2) the regional ecosystem number for each of the regional ecosystems mentioned in paragraph (1), and
- (3) areas the chief executive decides under section 20AH of the *Vegetation Management Act 1999* to show on the map as **remnant vegetation**.

Remnant map see the *Vegetation Management Act 1999*

Editor's note: A **remnant map** is a map certified by the chief executive of the *Vegetation Management Act 1999* as the **remnant map** for the part of the State to which the **regional ecosystem map** does not apply and showing for the part—

- (1) areas of remnant vegetation
- (2) areas the chief executive decides under section 20AH to show on the map as **remnant vegetation**.

Remnant vegetation see the *Vegetation Management Act 1999*

Editor's note: **Remnant vegetation** means vegetation, part of which forms the predominant canopy of the vegetation:

- (1) covering more than 50% of the undisturbed predominant canopy
- (2) averaging more than 70% of the vegetation's undisturbed height
- (3) composed of species characteristic of the vegetation's undisturbed predominant canopy.

Rill erosion is the removal of soil creating small channels up to 30 centimetres deep.

Root absorbed herbicides are herbicides that are taken up through the root systems of plants, such as those with hexazinone and tebuthiuron as active ingredients.

Routine management for **clearing** native vegetation on land, means the **clearing** of native vegetation:

- (1) to establish a necessary fence, road or vehicular track of the maximum width of clearing for the fence, road or track is 10m, or
- (2) to construct necessary built infrastructure, including core airport infrastructure, other than contour banks, fences, roads or vehicular tracks, if—
 - (a) the **clearing** is not to source construction timber
 - (b) the total extent of **clearing** is less than 2hectares
 - (c) the total extent of the infrastructure is on less than 2hectares, or
- (3) by the owner on freehold land to source construction timber for establishing necessary infrastructure on any land of the owner, if:
 - (a) the **clearing** does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured; or
- (4) by the lessee of land subject to a lease issued under the *Land Act 1994* for agriculture or grazing purposes to source construction timber, other than commercial timber, for establishing necessary infrastructure on the land, if:
 - (a) the **clearing** does not cause land degradation as defined under the *Vegetation Management Act 1999*
 - (b) restoration of a similar type, and to the extent of the removed trees, is ensured.

Salinisation is the process of salts accumulating in soils or waters.

Scalding is:

- (1) a bare area formed when the surface soil is removed by wind or water erosion, exposing a more clayey subsoil which is relatively impermeable to water; or

(2) where surface soil has been transformed into a hard-setting condition by exposure to raindrop impact or wind erosion.

Sheet erosion is the removal of a uniform layer of soil from the surface with generally no obvious channel created.

Significant community project see the *Vegetation Management Act 1999* section 10(5).

Editor's note: Significant community projects means projects the chief executive of the *Vegetation Management Act 1999* considers have an aesthetic, conservation, cultural or economic benefit to a local or regional community or the state including—

- (1) a project that serves an essential need of the community (for example essential infrastructure, schools) and
- (2) a project that significantly improves the community's access to services (for example hospitals, state or local government libraries or museums).

Significant wetland is:

- (1) In the Baffle, Barron, Black, Boyne, Burdekin, Calliope, Daintree, Don, Fitzroy, Haughton, Herbert, Johnstone, Mossman, Russell-Mulgrave, Murray, O'Connell, Pioneer, Plane, Proserpine, Ross, Shoalwater, Styx, Tully and Waterpark catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) shown as a Great Barrier Reef Wetland on the Vegetation Management Wetland Map, or
- (2) In all other catchments, the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle and that is:
 - (a) a regional ecosystem listed in Table 14 and the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like, on the most recent 1:250 000 Geoscience Australia topographic map of the area, or
 - (b) a Ramsar wetland.

Slope is a measure of the upward or downward incline of the land surface over any 30 metre length in the application area.

Stable soils are those soils listed in Table 12.

Stream order is a numerical ordering classification of each watercourse segment according to its position within a catchment, as shown in Figure 2. Stream orders are determined using the vegetation management watercourse map.

Unstable soils are those soils listed in Table 12.

Vegetation management watercourse map is a map, as amended from time to time, held by the department administering the *Vegetation Management Act 1999*. This map includes the:

- (1) Vegetation Management Watercourse Map (1:25 000)
- (2) Vegetation Management Watercourse Map (1:100 000 and 1:250 000). The map can be in digital electronic or hard copy format.

Editor's note: The vegetation management watercourse map is available in digital electronic format from the Department of Natural Resources and Mines website www.dnrm.qld.gov.au. Watercourses from the vegetation management watercourse map are also shown on the current *Vegetation Management Act 1999* Regional Ecosystem and Remnant Maps which are available for download at www.dehp.qld.gov.au

Very stable soils are those soils listed in Table 12.

Very unstable soils are those soils listed in Table 12.

Watercourse means the area of land:

- (1) between the high banks of a natural channel, whether artificially improved or not, in which water flows permanently or intermittently
- (2) that is shown:
 - (a) as a watercourse at a scale of 1:25 000 on the vegetation management watercourse map for the local government areas of Brisbane, Moreton Bay, Sunshine Coast, Gold Coast, Logan and Redland, excluding key resource areas; or
 - (b) as a watercourse at a scale of 1:100 000 on the vegetation management watercourse map for all other local government areas or in key resource areas.

Waterlogging is to soak or saturate with water.

Wetland is the area of land that supports plants or is associated with plants that are adapted to and dependent on living in wet conditions for at least part of their life cycle, and that is:

- (1) a regional ecosystem listed in Table 11, or
- (2) the area on the ground represented as a swamp, lake, marsh, waterhole, wetland, billabong, pool, spring or like represented on the most recent, finest scale:
 - (a) Geoscience Australia topographic map or data that shows swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like, or
 - (b) topographic data that represents swamps, lakes, marshes, waterholes, wetlands, billabongs, pools, springs or like
- (3) listed as an 'active' spring in the *Queensland Springs Database*.

Wind erosion is the movement of soil by wind.

Woody species crown cover is determined by estimating or measuring the area of ground covered by the canopy of the woody species, ignoring overlap and gaps within individual canopies, and is measured over each 50 metre x 50 metre area.

Abbreviations

DNRM – Department of Natural Resources and Mines

PMAV – Property Map of Assessable Vegetation

VMA – *Vegetation Management Act 1999*

8.5 Appendix A: Vegetation offset policy

8.5.1 Purpose

The purpose of the *Policy for vegetation management offsets*, Department of Environment and Resource Management, 2011 (the offset policy) is to set the requirements for an offset as a condition of a development approval that the chief executive considers is necessary or desirable for achieving the purpose of the *Sustainable Planning Act 2009*.

The chief executive administering the *Sustainable Planning Act 2009* should comply with the offset policy when imposing an offset as a condition of a development approval.

8.5.2 Rationale

The *Sustainable Planning Act 2009* makes certain categories of vegetation clearing assessable development to be assessed by the chief executive as assessment manager or referral agency.

Module 8: Native vegetation clearing supports both the purposes of the *Sustainable Planning Act 2009*, and the purposes of the *Vegetation Management Act 1999*. The purposes of the *Vegetation Management Act 1999* are:

- (1) conserving remnant vegetation that is—
 - (a) an endangered regional ecosystem
 - (b) an of concern regional ecosystem
 - (c) a least concern regional ecosystem
- (2) conserving vegetation in declared areas—
 - (a) ensure clearing does not cause land degradation
 - (b) prevent loss of biodiversity
 - (c) maintain ecological processes
 - (d) manage environmental effects of the clearing to achieve (a) through (e)
 - (e) reduce greenhouse gas emissions.

8.5.3 Policy

The offset policy is a policy under the *Queensland Government Environmental Offsets Policy (QGEOP)*, Environmental Protection Agency, 2008.

Module 8: Native vegetation clearing sets out performance outcomes which development applications for clearing native vegetation should meet, including specific performance outcomes that require a development to maintain the current extent of a particular regional ecosystem.

Maintaining the current extent of a particular regional ecosystem can be achieved by:

- (1) not clearing the regional ecosystem, or
- (2) if subparagraph (1) is not reasonably practicable, ensuring the structure and function of the regional ecosystem are maintained, or

- (3) if subparagraphs (1) and (2) are not reasonably practicable, imposing an offset as a condition of the development approval, or
- (4) the applicant proposes a land-based offset to satisfy the required outcome.

However, an offset may only be used to satisfy a performance outcome or acceptable outcome where the applicant has demonstrated to the chief executive that the development has first avoided and minimised the impacts of the development on vegetation prior to proposing an offset.

Where a development does not meet all the performance outcomes in the relevant bioregion state code, irrespective of whether an offset has been proposed, the development should not be approved.

The chief executive of the *Sustainable Planning Act 2009* is the ‘administering authority’ for the offset policy. However, the Department of Natural Resource and Mines (DNRM) performs offset monitoring, evaluation and compliance, and provides technical advice, to support the administering authority.

8.5.4 Compliance and monitoring

An evaluation of the offset policy will be incorporated into the DNRM annual compliance plan. This evaluation will assess the level of compliance of individual offsets and offset area management plans, as well as evaluating the offset policy’s overall success in maintaining the current extent of regional ecosystems.

This evaluation will be based on information sources including:

- (1) satellite analysis based on the statewide landcover and tree study (SLATS)
- (2) regular reporting provided by approval holders and offset providers
- (3) targeted field audits by DNRM officers.

8.5.5 How to use this policy

Vegetation offset criteria

All offsets must meet the vegetation offset criteria 1 to 7:

- (1) offset limitations
- (2) performance outcomes
- (3) obtaining ecological equivalence
- (4) ensuring the offset area is legally secured
- (5) information requirements
- (6) when an offset ceases to have effect
- (7) offset requirements to address PO2 of each table title ‘General’ in the relevant bioregion state code.

8.5.6 Advance offset

This section applies where an applicant seeks acknowledgment from the administering authority for an advance offset (refer to section 8.5.26 Advance offset).

8.5.7 Vegetation offset criteria

Criteria 1 – offset limitations

All offset proposals must meet the following:

- (1) be land-based, however, may be delivered as either a direct offset or offset transfer, or by an offset payment
- (2) may be used to satisfy multiple offset requirements, where an offset is required under the *Sustainable Planning Act 2009* or another Act or policy of Commonwealth, state or local government for the one development application, providing the requirements of this offset policy are met
- (3) may be located on land owned by the applicant or by a third party
- (4) must, at a minimum, be the same number of hectares as the area requiring offsetting on the clearing site. However, an area may be less if the ecological equivalence for the offset area significantly exceeds the clearing area for both ecological equivalence criteria
- (5) must, if the offset is less than 10 hectares, be connected to an area of assessable or otherwise protected vegetation that in total, is equal to or greater than 10 hectares
- (6) must contain functioning regional ecosystems.

The proposed offset area must not:

- (1) be vegetation shown as remnant vegetation on a regional ecosystem or remnant map unless the area has a valid clearing approval under the *Sustainable Planning Act 2009* or *Vegetation Management Act 1999*, issued by the chief executive of that Act, that would result in the area being cleared
- (2) be vegetation that is required to be retained by an approval issued under any Act administered by the Commonwealth, state or local government
- (3) be on land that is the subject of an offset or exchange area arrangement administered by the Commonwealth, state or local government
- (4) be a category A or B area on a property map of assessable vegetation (PMAV)
- (5) be land on which the vegetation is protected by an instrument of the state government, unless the area is an advance offset approved under the offset policy
- (6) be vegetation shown on a regrowth vegetation map as high value regrowth that is:
 - (a) an endangered regional ecosystem on freehold or Indigenous land
 - (b) an endangered or of concern regional ecosystem on leasehold land (agriculture and grazing)
 - (c) essential regrowth habitat
 - (d) stream protection zone
 - (e) within a wetland protection area
 - (f) on a slope greater than 12 per cent.

An offset area, where it meets the requirements of the offset policy, may be sourced from the following areas:

- (1) category X areas identified on a PMAV
- (2) high-value regrowth vegetation, unless the area is identified in criteria 1
- (3) other regrowth vegetation.

Criteria 2 – performance outcomes

The applicable section and performance outcome of the relevant bioregion state code identifies when an applicant may propose an offset as a means of meeting the PO and the vegetation it relates to.

One offset area may address the offset requirements for multiple performance outcomes, providing that all the requirements for the clearing area are met.

The following list identifies the offset requirements for the vegetation associated with each of the performance outcomes.

8.5.8 Wetlands

An offset area for wetlands must:

- (1) be located within the same bioregion
- (2) have the same or higher wetland status (that is either a wetland or significant wetland) as identified in the relevant state code of Module8: Native vegetation clearing
- (3) be a wetland area or regional ecosystem listed in the relevant state code of Module8: Native vegetation clearing
- (4) be a regional ecosystem associated with a wetland or significant wetland which assists with maintaining water quality, aquatic habitat and terrestrial habitat.

8.5.9 Watercourses

An offset area for watercourses must be:

- (1) located within the same bioregion
- (2) the same or higher stream order as the watercourse proposed for clearing
- (3) a regional ecosystem associated with a watercourse which assists with maintaining bank stability, water quality, aquatic habitat and terrestrial habitat.

8.5.10 Connectivity

An offset area for connectivity must be:

- (1) located within the same bioregion
- (2) identified on a map within one of the following:
 - (a) a strategic area or strategic rehabilitation area identified by DNRM

- (b) an ecological corridor identified by the Commonwealth, state or local government either on its website or in an approved and publically available document
- (c) a DNRM-approved strategic corridor identified by a recognised organisation or group.

8.5.11 Endangered regional ecosystems

An offset area for an endangered regional ecosystem must be:

- (1) an endangered regional ecosystem in the same broad vegetation group (at the regional scale of 1:1 000 000)
- (2) located within the same bioregion.

8.5.12 Of concern regional ecosystems

An offset for an of concern regional ecosystem must be:

- (1) an of concern regional ecosystem in the same broad vegetation group (at the regional scale of 1:1 000 000)
- (2) located within the same bioregion
- (3) the same or higher conservation status as the area proposed for clearing.

8.5.13 Essential habitat

An offset area for essential habitat must:

- (1) be located within the same bioregion
- (2) include at least three essential factors for the protected wildlife, and must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database, or be an area utilised by the protected wildlife at any stage of its life cycle for which there is recent evidence
- (3) demonstrate that the direct impacts on the protected wildlife are mitigated by the offset area and surrounding environment.

8.5.14 Essential habitat for koalas in South East Queensland

Where essential habitat is for the koala (*Phascolarctos cinereus*) and the clearing occurs within South East Queensland as mapped by the South East Queensland Regional Plan (excluding the Toowoomba Regional Council area), the offset area must:

- (1) be located within bushland habitat or an area suitable for rehabilitation, as identified by a *South East Queensland Koala Conservation State Planning Regulatory Provisions koala habitat values map*, or a map in the *State Planning Policy*
- (2) be located within the same regional or city council area as the primary clearing site or, where this is not achievable, be within an adjacent local government area
- (3) demonstrate that the direct impacts on the protected wildlife are mitigated by the offset area and surrounding environment.

8.5.15 Threshold regional ecosystem

An offset area for threshold regional ecosystems must be:

- (1) the same regional ecosystem as the regional ecosystem proposed for clearing
- (2) located within the same bioregion.

8.5.16 Critically limited regional ecosystems

An offset area for a critically limited regional ecosystem listed in Appendix B must be:

- (1) the same regional ecosystem as the area proposed for clearing
- (2) located within the same bioregion.

8.5.17 Offsetting values within a highly vegetated bioregion

An offset area may be proposed within another bioregion if the area proposed for clearing is located within the following highly vegetated bioregions:

- (1) Northwest Highlands
- (2) Gulf Plains
- (3) Cape York Peninsula
- (4) Mitchell Grass Downs
- (5) Channel Country
- (6) Einasleigh Uplands.

The offset area must:

- (1) address the requirements associated with the relevant value in criteria 2, with the exception of being located within the same bioregion
- (2) where relevant, be within the same broad vegetation group (at the state scale of 1:2 000 000)

The above does not apply to endangered and critically limited regional ecosystems in Appendix B, which must be located within the bioregion where the clearing is proposed.

Criteria 3 – obtaining ecological equivalence

Demonstrating ecological equivalence on the proposed clearing area and offset area requires an ecological equivalence assessment of both areas. Ecological equivalence is comprised of two components—ecological condition and special features.

Ecological equivalence between the proposed impact site and the offset area is demonstrated when all of the following apply:

- (1) when an ecological equivalence assessment is undertaken against the ecological equivalence indicators in Appendix C
- (2) when the proposed offset area achieves a level of ecological condition the same as, or higher, than the impact site
- (3) when the proposed offset area achieves a level of special features the same as, or higher, than the impact site.

Sufficient information must be provided to the administering authority to demonstrate that ecological equivalence between the proposed clearing area and offset area has been achieved.

Ecological equivalence can be measured using the ecological equivalence methodology, a decision support tool designed to assist the applicant and decision maker determine the appropriateness of the offset.

For guidance on completing an assessment for ecological equivalence, refer to the ecological equivalence methodology, which is available at website, www.dnrm.qld.gov.au

Criteria 4 – ensuring the offset area is legally secured

All land-based offset areas must be legally secured. Securing an offset area means the vegetation within an offset area, which meets the requirements of this offset policy, is provided with additional protection from clearing through the use of a legally binding mechanism such as a covenant, voluntary declaration or nature refuge.

The legally binding mechanism must be supported by an offset area management plan that identifies the actions required to ensure an offset area is managed in a way that meets the objective/s of the offset area, such as achieving remnant status.

There are three options for delivering an offset under this offset policy. Applicants must choose one of the following:

- (1) direct offsets
- (2) offset transfer
- (3) offset payments.

8.5.18 Direct offsets

A direct offset is provided by an applicant at the same time as the development application is being assessed. This requires that the offset area, legally binding mechanism and offset area management plan are assessed prior to a development permit being approved.

Where the offset area, legally binding mechanism and offset area management plan are approved and a development approval is issued, and a condition of the approval requires the legally binding mechanism, the applicant has four months to ensure the legally binding mechanism is finalised, for example, a covenant under the *Land Act 1994* is registered on title with the Land Titles Registry within four months of the development permit being issued.

8.5.19 Offset transfer

An applicant may enter into a legally binding contractual agreement with an offset broker for the provision of an offset area as a means of meeting the regulatory performance outcomes contained in Module 8: Native vegetation clearing, including the offset policy.

For an offset to be considered, it must be evident that an offset is available at the time of the development approval being issued, and that the offset can be legally secured within 12 months.

It is unlikely that an offset transfer would be suitable for threshold or critically limited regional ecosystems.

Prior to the development being approved, the applicant shall:

- (1) provide the administering authority with a copy of a legally executed contractual agreement with an offset broker (broker agreement)
- (2) enter into an agreement with the administering authority whereby the administering authority may approve the broker agreement, and whereby the applicant provides the financial surety in the form of an unconditional bank guarantee, consistent with the amount identified in the offset transfer with the offset broker.

Note: Queensland Government departments and government-owned corporations are not required to provide financial surety.

The offset transfer with the offset broker (broker agreement) must identify the following:

- (1) proponent, project, stage, address and key contact details
- (2) lot/s and plan/s of the clearing area, including tenure
- (3) SARA reference number
- (4) requirement to locate and legally secure an offset area consistent with the requirements set out in the offset policy
- (5) requirement to provide a legally secured offset area within 12 months of the issuing of the applicant's development approval, whereby time is to be of the essence
- (6) requirement to provide a written quarterly report to the administering authority on the progress of legally securing an offset area
- (7) regional ecosystems, essential habitat species, wetland type, stream order of the areas proposed for clearing, the areas (hectares) involved for each value
- (8) ecological equivalence scores for ecological condition and special features on the clearing area
- (9) financial amount which is the subject of the broker agreement.

Note: This financial amount will become the financial surety provided to the administering authority (this is not required where the applicant is state government departments and government-owned corporations).

The administering authority may refuse to accept an offset transfer as evidence of not meeting the performance outcomes within the relevant bioregion state code:

- (1) where insufficient evidence has been provided to demonstrate that an offset area is available in the landscape which meets the requirements of the offset policy
- (2) where an applicant has not complied with a condition of a previous development permit, when that condition imposed an offset
- (3) where the applicant has not concluded, as at the date of the application at hand, the terms and timeframes of a prior offset transfer as required by the conditions of a previous development approval.

Should the applicant be unable to legally secure an offset within 12 months as agreed through no default on the applicant's part, the applicant may apply for a time extension. The grant of an extension shall be at the discretion of the administering authority. The applicant must demonstrate substantial progress in locating and securing an offset and despite this effort is unable to meet the timeframes.

8.5.20 Offset payment

An offset payment is a financial payment made by an applicant to a trust established for land management or nature conservation purposes and approved by administering authority.

The use of an offset payment will not be approved by the administering authority where an application does not meet all the performance outcomes in Module 8: Native vegetation clearing.

An applicant must, prior to the administering authority approving the use of an offset payment and issuing the vegetation clearing approval, provide the following information:

- (1) how the development has been designed and located to avoid and minimise the extent of clearing
- (2) an ecological equivalence assessment, consistent with criteria 3—obtaining ecological equivalence, for the clearing area
- (3) evidence from the approved trust to support the availability of a known pre-identified area which meets the requirements of the offset policy
- (4) the offset payment amount, as quoted by the approved trust, based on the costs associated with locating and legally securing the pre-identified area above. The costs should include all administrative, legal and land management costs associated with delivering on the requirements of this offset policy.

Once the administering authority has approved the use of an offset payment, the applicant must provide the administering authority with a copy of the receipt from the approved trust prior to approval of the development application.

Once the development application has been approved by the assessment manager, the applicant must provide a copy of the development approval to the approved trust within 10 business days.

In accepting the offset payment, the approved trust must:

- (1) locate an offset area within a strategic biodiversity corridor identified by DNRM
- (2) locate an offset area which meets the offset requirements consistent with this offset policy
- (3) provide quarterly written reports on the progress of legally securing the pre-identified offset
- (4) provide an offset area proposal to the administering authority for assessment against the offset policy. The proposal must address how the offset area meets the requirements of the offset policy, and include a legally binding mechanism and offset area management plan
- (5) legally secure the pre-identified offset area within 12 months of the issuing of the development approval.

8.5.21 Indirect offsets

An indirect offset may form part of an offset package, in combination with either a direct offset or an offset transfer, where an applicant has provided an offset area which substantially achieves ecological equivalence with the clearing area, but fails to meet the required ecological equivalence scores.

For an indirect offset to be considered, the land-based offset must:

- (1) meet assessment for ecological equivalence using the ecological equivalence methodology
- (2) achieve the minimum threshold requirements for any ecological equivalence indicator identified in the ecological equivalence methodology
- (3) obtain ecological equivalence scores for ecological condition and special features which are within 90 per cent of the ecological equivalence scores for the clearing area.

For an indirect offset to qualify, it must be an activity that will result in, or improve the spatial capture of vegetation and wildlife information, or be an action associated with a threatening process identified in a conservation plan or recovery plan. It must be for species or ecosystems within the same bioregion. These activities are either:

- (1) habitat mapping or modelling for priority endangered, vulnerable or near threatened species listed under the *Nature Conservation Act 1992* using a methodology approved by DNRM
- (2) development of regional ecosystem benchmark data undertaken consistent with the *Methodology for the establishment and survey of reference sites for biocondition*, Department of Environment and Resource Management, 2011
- (3) fauna survey of DNRM identified strategic areas where inadequate data exists
- (4) finer scale regional ecosystem mapping undertaken is consistent with the *Methodology for survey and mapping regional ecosystems and vegetation communities in Queensland*, Department of Science, Information Technology, Innovation and the Arts, 2012
- (5) addressing a threatening process outlined in a state or Commonwealth approved conservation or recovery plan.

An applicant may contract either the Queensland Government (where this service is offered), or a suitability qualified consultant. All output stemming from an indirect offset must be made publically available via the Queensland Government.

The expenditure on an indirect offset activity must be relevant to the overall financial outlay of providing the land-based offset and the extent to which it makes up the ecological equivalence score (for example, 5 per cent, 10 per cent).

The applicant is responsible for providing sufficient information to the administering authority to facilitate assessment and approval of the indirect offset proposal. This information should include, but is not restricted to:

- (1) financial outlay associated with the land-based offset
- (2) activities to be undertaken to meet the requirements for an indirect offset
- (3) responsible consultants, expertise and experience
- (4) contractual arrangements
- (5) timeframe for providing the indirect offset.

Where insufficient information is provided, the use of an indirect offset will not be approved. An indirect offset activity must be finalised within 12 months of approval of the indirect offset by the administering authority. A quarterly report on the progress of finalising the indirect offset activity is to be provided to the administering authority.

Criteria 5 – information requirements

All offset proposals must provide the following information to demonstrate how the requirements identified in the *Sustainable Planning Act 2009*, Module 8: Native vegetation clearing, and offset policy will be achieved. The following information must be provided to the satisfaction of the administering authority.

8.5.22 General assessment requirements

- (1) how the development has been designed and located on the lot/s to avoid and minimise the extent of clearing
- (2) tenure of the clearing area
- (3) details of any rights to take forestry products

8.5.23 Offset proposal requirements

- (1) details of how the vegetation offset criteria contained in this offset policy have been met, including the provision of the legally binding mechanism and offset area management plan
- (2) tenure of offset area
- (3) details of any mining encumbrances, including exploration permits
- (4) an analysis of the proposed location of the offset area in relation to existing and future land uses, and the implications of the land use on the offset area's long term viability. Matters to be considered as part of the analysis include:
 - (a) zoning and regional land use category (if available) of the offset area and surrounding area under the local government planning scheme and regional plan produced either under the repealed *Integrated Planning Act 1997* or *Sustainable Planning Act 2009*

- (b) maps spatially identifying the current and potential future land uses, including proposals for major infrastructure, mining, petroleum and gas activities on or in the general vicinity of the offset area
- (c) threatening processes which may impact on the effectiveness of the management actions on the proposed offset area.

8.5.24 Offset area management plan requirements

The following requirements must be provided for all offset areas.

An offset area management plan which includes (but is not limited to):

- (1) a map (preferably digital) that clearly identifies the proposed offset area with global positioning system (GPS) points, including any areas subject to specific management actions
- (2) the proposed clearing regional ecosystem/s and essential habitat, and those on the proposed offset area
- (3) the ecological equivalence assessment of the offset area and the date it was undertaken
- (4) the offset area management objectives and outcomes
- (5) activities to be undertaken on the offset area to achieve the management objectives and outcomes
- (6) restrictions imposed on the use of the offset area to achieve the management objectives and outcomes
- (7) an analysis of the risks to achieving the management objectives and outcomes, actions to minimise the risks and remedial action that will be undertaken if any of the risks occur
- (8) a yearly schedule of management actions, to ensure achievement of the management objectives and outcomes, for the period until the offset area is mapped as remnant regional ecosystem or essential habitat
- (9) a monitoring and reporting program
- (10) the estimated time until the offset management objectives and outcomes will be achieved
- (11) identification of all registered interests including mortgages, leases, subleases, covenants, profit a prendre, easements and building management statements, that have been registered on title under the *Land Act 1994* or the *Land Title Act 1994*
- (12) identification of all registered interests including mortgages, leases, subleases, covenants, profit a prendre, easements and building management statements, that have been registered on title under the *Land Act 1994* or the *Land Title Act 1994*.

8.5.25 Management costs and activities (to be provided for all offset proposals)

The following requirements are to ensure that the landholder providing the offset is aware of their responsibilities and there are adequate resources available to deliver the offset area management plan:

- (1) evidence that the landholder has received legal advice in regard to their obligations under the legally binding mechanism
- (2) the estimated management costs associated with achieving the offset management objectives, actions and outcomes

- (3) where management is required for more than three years, the trust account details (financial institution, bank account number and name) for the holding of funds for the ongoing management actions of the offset area, and milestone payments
- (4) where management of the area will be for three years or less, a trust account is not required. However, the applicant will need to provide information, including any management contracts with third parties and the payment of funds arrangements to the landholder, within four months of the relevant development permit being issued (for direct offsets), or at the time the offset area is legally secured (for offset transfers)
- (5) evidence that the management costs identified have been transferred into the nominated trust account within four months of the relevant development permit being issued (for direct offsets) or at the time the offset area is legally secured (for offset transfers)
- (6) the entities responsible for undertaking the management actions, and the skills or expertise of the entities responsible for undertaking the management actions.

Criteria 6 – when an offset ceases to have effect

All offset areas must meet the following criteria.

An offset area remains in effect until the offset area ceases under its terms. For the purposes of an offset area, this will include the offset meeting any requirements that are stipulated within the development approval, or legally binding mechanism and offset area management plan.

To bring an offset area to an end, evidence must be provided to the administering authority which demonstrates that the requirements of the development approval (if applicable), legally binding mechanism and offset area management plan have been achieved. This includes providing evidence that the offset area:

- (1) has achieved remnant status
 - (2) is a regional ecosystem
- and where applicable—
- (1) includes at least three essential habitat factors for the protected wildlife and must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database, or
 - (2) is an area in which the protected wildlife, at any stage of its life cycle, is located.

Once the requirements of the development approval (if applicable), legally binding mechanism and offset area management plan have been achieved, the offset area must either be mapped by DNRM as remnant vegetation on a regional ecosystem map, or certified as essential habitat on an essential habitat map. The administering authority will only agree to the removal of the legally binding mechanism once this has occurred.

Note: The legally binding mechanism must remain in place where the values within the offset area (at the time of the legally binding mechanism being placed over the offset area) will not be regulated under the *Sustainable Planning Act 2009* or *Vegetation Management Act 1999* upon achieving the management objectives within the management plan and it being mapped.

For example, an offset area for an of concern regional ecosystem which is within an area zoned as an urban purpose in an urban area under a local government planning scheme and not protected under the *Sustainable Planning Act*

2009 or *Vegetation Management Act 1999*. However, where a landowner can demonstrate that the values within the offset area are regulated under the *Sustainable Planning Act 2009* or *Vegetation Management Act 1999*, the legally binding mechanism can be removed.

Criteria 7 – offset requirements to address PO2 of each table titled ‘General’ in the relevant bioregion state code

This section identifies the offset requirements which must be met by applicants when development is being assessed against PO2 of each table titled ‘General’ in the relevant bioregion state code for material change of use and reconfiguring a lot development applications.

PO2 directs that clearing may only occur where it can be demonstrated that the level of conservation and biodiversity outcomes ensured by the development significantly exceed the extent and value of the area proposed to be cleared.

To demonstrate that the conservation and biodiversity outcomes as a result of the completed development significantly exceed the extent and value of the area proposed to be cleared, the following requirements for the offset area must be achieved, it:

- (1) meets the requirements of the offsets policy
- (2) relates to the values of the clearing area
- (3) achieves an ecological equivalence score for both ecological condition and special features that is three times the ecological equivalence scores obtained for the clearing area, using the ecological equivalence methodology.

An indirect offset may be considered in addition to a land-based offset which substantially achieves ecological equivalence with the clearing area, but does not meet the required ecological equivalence scores. However, the nature of the indirect offset must be relative to the requirement to significantly exceed. Criteria 4 provides further information on the requirements of an indirect offset.

8.5.26 Advance offset

An advance offset is an offset area of land which has been protected from impacts, in advance of the lodgement of a development application, which would require an offset in the future.

An applicant may request an acknowledgment notice from the administering authority that an advance offset is consistent with the relevant requirements contained in this policy. The administering authority will provide an acknowledgment notice for the advance offset, and the extent to which it complies with the policy.

The acknowledgment notice will detail the ecological condition and special feature scores of the advance offset site, using the ecological equivalence methodology. This score can be used to measure the ecological equivalence of the advance offset area with a future impact site at the time the application is assessed.

An acknowledgment notice does not provide an indication that a future development application to which the advance offset relates will be approved. Assessment of the development application will be under the laws and policies in place at the time of lodgement.

Where an offset area is sourced from an acknowledged advance offset, an assessment of the offset area will be undertaken against the offset policy in place at the time of the development application. The applicant is responsible for providing any information necessary for assessment to meet the requirements of the offset policy.

The ecological condition and special feature scores set out in the acknowledgment notice for an advance offset must, at the time the application is assessed, be the same or greater than for the clearing area. The offset will be required to be managed to achieve, at a minimum, the mapped remnant status.

The acknowledged advance offset is required to be protected from clearing via a legally binding mechanism; however, it is not required to be managed in accordance with an offset area management plan. However, the ecological condition and special feature scores set out in the acknowledgment notice must, at the time the application is assessed, be the same or greater than set out in the acknowledgment notice for the offset site.

To facilitate an assessment of an advance offset, the applicant must provide the administering authority with the following:

- (1) locational information of the advance offset area
- (2) the values located on the land on the proposed advance offset area
- (3) an ecological equivalence assessment, consistent with the ecological equivalence methodology, for the proposed advance offset
- (4) how the advance offset meets criteria 1, 3, 5 and 7 (where applicable) of the offset policy
- (5) a draft legally binding mechanism which protects the values on the advance offset from clearing.

8.5.27 Glossary of terms

Administering authority is the chief executive of the agency administering the *Vegetation Management Act 1999*.

Bioregions are based on broad landscape patterns that reflect the major structural geologies and climate as well as major changes in floristic and faunal assemblages. Bioregions contain a number of subregions. The exact location of the bioregion boundaries are available from the Department of Natural Resources and Mines in digital electronic form.

Broad vegetation groups are higher level groupings of vegetation units or regional ecosystems. There are three levels of broad vegetation groups which reflect the scale at which they are designed to be used: 1: 5,000,000 (national), 1: 2,000,000 (state) and 1: 1,000,000 (regional).

Editor's note: For further information on broad vegetation groups and supporting spatial datasets, contact www.dnrm.qld.gov.au

Critically limited regional ecosystem has remnant extent below five per cent of their pre-clearing extent and are less than 500 hectares in total, or have a remnant extent less than 200 hectares, or are at risk of the remnant extent falling below 200 hectares.

Functioning regional ecosystems refers to the processes, relationships and interactions among species, and between living organisms and the environment in which they live. These can be used to determine whether an area of vegetation is functioning as a regional ecosystem. Some signs of ecosystem functioning are:

- (1) Variations in the range, height and age of plant species
- (2) Recruitment evidenced through the presence of seedlings or saplings of different species
- (3) Presence of a range of habitat options (for example, logs, leaf and branch debris)
- (4) Presence of leaf litter and organic matter
- (5) Evidence that the site is being used by native fauna.

Not all indicators need to be present in order for the vegetation to form a functioning ecosystem. Other indicators, not listed here, may also need to be considered.

If some indicators of a functioning ecosystem are present, then it is likely that the vegetation forms a vegetation community. For example, an area with vigorously growing native woody saplings among scattered mature trees and minimal weed invasion would be likely to constitute a vegetation community.

If no indicators of a functioning ecosystem are present, then vegetation is not likely to form a vegetation community. For example, a small isolated stand of large trees in a grazed paddock, with no understorey vegetation is not likely to form a vegetation community which is part of a functioning ecosystem – therefore, unlikely to be a regional ecosystem.

Vegetation is a regional ecosystem where it contains:

- (1) Evidence of ecosystem function
- (2) Species characteristics of a regional ecosystem obtained from the Department of Natural Resources and Mines regional ecosystem description database.

Government owned corporation means government owned trading enterprises which conduct activities and provide services in a commercially orientated environment. These bodies are listed on the Queensland Government website www.qld.gov.au

Legally binding mechanism may include:

- (1) Declaration of an area under the *Vegetation Management Act 1999*
- (2) A covenant under the *Land Act 1994*; *Land Title Act 1994* and *Sustainable Planning Act 2009*, or
- (3) Gazettal as a protected place under *the Nature Conservation Act 1992*, or
- (4) Other mechanism administered and approved by the state.

Legally secured for an offset area means that the offset area must:

- (1) Be provided protection from clearing through the use of a legally binding mechanism
- (2) Supported by an offset area management plan that identifies the actions required to ensure an offset area is managed to meet the objectives of the offset area
- (3) Be registered on title, certified or gazetted as required by the legally binding mechanism.

Significantly exceeds means that the offset area achieves an ecological equivalence score for both ecological condition and special features that is three times the ecological equivalence scores for the clearing area using the ecological equivalence methodology.

Abbreviations

DNRM – Department of Natural Resources and Mines

GPS – Global Positioning System

PMAV – Property Map of Assessable Vegetation

SARA – Single Assessment and Referral Agency

SLATS – Statewide Land Cover and Trees Study

8.6 Appendix B: Critically limited regional ecosystems

Table—Critically limited regional ecosystems

Regional ecosystem description	Status
1.5.2 Mixed eucalypt woodland on sandy plains	Of concern
2.5.4 Cypress (<i>Callitris glaucophylla</i>) woodland on plains on deep sandy soils	Of concern
3.2.29 <i>Pisonia grandis</i> low closed forest. Restricted to a few scattered sand cays	Of concern
3.2.30 <i>Pemphis acidula</i> ± low closed forest. Restricted to coral atolls, shingle cays and sand cays	Of concern
3.2.31 <i>Premna serratifolia</i> closed scrub. Restricted to coral atolls, shingle cays and sand cays	Of concern
3.2.32 <i>Lepturus repens</i> closed herbland. Restricted to sand cays	Of concern
3.3.7 Tall semi-deciduous notophyll/microphyll vine thicket. Occurs on colluvial plains	Of concern
3.3.68 Semi-deciduous notophyll vine forest and thicket on alluvial plains	Of concern
3.3.69 <i>Melaleuca dealbata</i> ± <i>Corymbia clarksoniana</i> tall open forest on alluvial plains	Of concern
3.3.70 <i>Lophostemon suaveolens</i> ± <i>Melaleuca cajuputi</i> subsp. <i>platyphylla</i> ± <i>Pandanus</i> sp. ± <i>Livistona muelleri</i> woodland and open forest. Alluvial plains of northern Torres Strait Islands	Of concern
3.5.32 <i>Asteromyrtus brassii</i> + <i>Syzygium angophoroides</i> + <i>Acmena hemilampra</i> subsp. <i>Hemilampra</i> open forest. Residual sand rises and sheets	Of concern
3.8.5 Semi deciduous and deciduous notophyll vine forest. Basaltic Islands of the Torres Strait	Of concern
3.12.1 Semi-deciduous mesophyll/notophyll vine forest on granite slopes, in the central bioregion	Of concern
3.12.5 Simple evergreen notophyll vine forest. Upper slopes of mountains and ranges in the south	Of concern
3.12.27 <i>Welchiodendron longivalve</i> and <i>Melaleuca viridiflora</i> low woodland on granite ridge crests	Of concern
4.3.22 Springs on recent alluvia and fine-grained sedimentary rock	Endangered
6.3.23 Springs on recent alluvia, ancient alluvia and fine-grained sedimentary rock	Endangered
6.7.18 Springs associated with lateritised sandstone	Of concern
6.12.1 Scattered <i>Acacia aneura</i> around granite boulders	Of concern
7.1.4 Mangrove and vine forest communities of the brackish zone	Of concern
7.2.6 Mosaic of clumps of notophyll vine forest, sclerophyll spp. shrublands and open woodlands, and bare sand blows, on aeolian dunes	Of concern
7.3.2 Grasslands and sedgeland ± <i>Melaleuca</i> spp., of wetlands within volcanic craters, often on peat	Of concern
7.3.30 Complex of fernlands and sedgeland with emergent rainforest pioneering spp., in permanently wet peat swamps of alluvial plains	Endangered
7.3.33 Lakes within volcanic craters, including open water, and narrow shoreline sedge fringes	Of concern
7.3.34 <i>Acacia mangium</i> and/or <i>A. celsa</i> and/or <i>A. polystachya</i> closed forest on alluvial	Endangered

Regional ecosystem description		Status
	plains	
7.3.37	Complex semi-evergreen notophyll vine forest of uplands on alluvium	Endangered
7.3.38	Complex notophyll vine forest with emergent <i>Agathis robusta</i> , on alluvial fans	Of concern
7.3.42	<i>Eucalyptus grandis</i> open forest to woodland (or vine forest with emergent <i>E. grandis</i>), on alluvium	Of concern
7.3.47	<i>Allocasuarina littoralis</i> , <i>Corymbia intermedia</i> and <i>Lophostemon suaveolens</i> open forest, on poorly drained alluvium	Of concern
7.3.48	<i>Eucalyptus portuensis</i> and <i>E. drepanophylla</i> ± <i>Corymbia intermedia</i> , ± <i>C. citriodora</i> open woodland to open forest, on dry uplands on alluvium	Of concern
7.5.3	<i>Eucalyptus portuensis</i> , <i>Corymbia citriodora</i> and <i>E. drepanophylla</i> woodland to open forest of uplands, on weathered soils of a remnant surface	Of concern
7.8.13	Simple notophyll vine forest of <i>Blepharocarya involucrigera</i> of high rainfall, cloudy uplands on basalt	Of concern
7.8.17	<i>Eucalyptus portuensis</i> and <i>Corymbia intermedia</i> ± <i>C. citriodora</i> woodland to open forest on basalt	Of concern
7.11.2	Notophyll or mesophyll vine forest with <i>Archontophoenix alexandrae</i> or <i>Licuala ramsayi</i> , on metamorphics	Of concern
7.11.36	<i>Allocasuarina littoralis</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> shrubland with <i>Xanthorrhoea johnsonii</i> on serpentinite foothills with deep red soils	Of concern
7.11.45	<i>Eucalyptus cloeziana</i> open forest on metamorphics	Of concern
7.11.48	<i>Melaleuca viridiflora</i> ± <i>Corymbia clarksoniana</i> ± <i>Eucalyptus platyphylla</i> woodland to open forest, on metamorphics	Of concern
7.12.45	Simple notophyll vine forest dominated by <i>Dryadodaphne</i> sp. (Mt Lewis B.P. Hyland+RFK1496) of wet highlands on granite	Of concern
7.12.47	Notophyll-microphyll semi-evergreen vine forest with <i>Argyrodendron polyandrum</i> emergents, on rhyolite	Of concern
7.12.63	<i>Eucalyptus moluccana</i> woodland, on granite and rhyolite	Of concern
7.12.67	<i>Gleichenia dicarpa</i> , <i>Gahnia sieberiana</i> , <i>Lycopodiella cernua</i> , <i>Lycopodium deuterodensum</i> closed fernland of granite highlands, on Thornton Peak and Mt Bartle Frere	Of concern
7.12.68	Complex notophyll vine forest of cloudy moist to wet highlands on granite	Of concern
8.2.5	Notophyll feather palm vine forest dominated by <i>Archontophoenix cunninghamiana</i> on parabolic dunes	Of concern
8.2.9	<i>Heteropogon triticeus</i> , <i>Imperata cylindrica</i> and <i>Themeda triandra</i> grassland on coastal dunes	Of concern
8.3.11	<i>Melaleuca</i> sp. aff. <i>viridiflora</i> closed forest to woodland in broad drainage areas (wetlands)	Endangered
8.10.1	<i>Acacia julifera</i> subsp. <i>julifera</i> and/or <i>Eucalyptus</i> spp. ± <i>Corymbia</i> spp. ± <i>Allocasuarina luehmannii</i> ± <i>Acacia</i> spp. open-forest to woodland on exposed slopes of islands, on Cretaceous sedimentary rocks	Of concern
8.11.7	<i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i> and <i>Allocasuarina littoralis</i> shrubland on exposed metamorphic mountain tops	Of concern
9.4.3	<i>Acacia harpophylla</i> and <i>Lysiphyllum carronii</i> open woodland on Cainozoic clays	Of concern
9.10.2	Springs and their associated vegetation on quartzose sandstone, limestone,	Of concern

Regional ecosystem description		Status
	metamorphic rock and granite	
10.3.30	Casuarina cristata woodland on flood plains	Of concern
10.3.31	Artesian springs emerging on alluvial plains	Of concern
10.4.9	Corymbia terminalis low open woodland on Cainozoic lake beds	Of concern
11.2.4	Lagoons in swales	Of concern
11.8.9	Callitris spp. ± vine thicket on Cainozoic igneous rocks. Hillsides	Of concern
11.8.12	Eucalyptus microcarpa, E. exserta woodland on Cainozoic igneous rocks	Of concern
11.9.6	Acacia melvillei ± A. harpophylla open forest on fine-grained sedimentary rocks	Endangered
12.8.11	Eucalyptus dunnii tall open forest on Cainozoic igneous rocks	Of concern
12.8.12	Eucalyptus obliqua tall open forest on Cainozoic igneous rocks	Of concern
12.8.18	Simple notophyll vine forest with Ceratopetalum apetalum on Cainozoic igneous rocks	Of concern
12.8.22	Semi-evergreen vine thicket with Brachychiton australis on Cainozoic igneous rocks. Usually northern half of bioregion	Endangered
12.8.26	Corymbia trachyphloia and Eucalyptus major woodland on igneous rocks	Of concern
12.9-10.9	Shrubland/low woodland on sandstone lithosols	Of concern
12.9-10.11	Melaleuca irbyana low open forest on sedimentary rocks	Endangered
12.9-10.13	Eucalyptus corynodes woodland on sedimentary rocks	Of concern
13.3.2	Eucalyptus nova-anglica open forest on alluvial plains	Endangered
13.3.3	Eucalyptus nobilis open forest on alluvial plains	Endangered
13.3.6	Sedgeland on igneous rocks	Of concern
13.3.7	Eucalyptus tereticornis, Angophora floribunda open forest on alluvial plains	Endangered
13.9.2	Eucalyptus moluccana open forest on fine-grained sedimentary rocks	Endangered
13.11.2	Eucalyptus laevopinea open forest on metamorphics	Of concern
13.11.7	Low microphyll vine forest on metamorphics	Of concern

8.7 Appendix C: Ecological equivalence indicators

Table—Ecological equivalence indicators

Ecological equivalence criteria	Indicators	Supporting information on www.dnrm.qld.gov.au
Ecological condition	<ul style="list-style-type: none"> (1) Recruitment of woody perennial species (2) Native plant richness (3) Tree canopy cover (4) Tree canopy height (5) Shrub cover (6) Native perennial grass cover (7) Large trees (8) Coarse woody debris (9) Weed cover (10) Organic litter (11) Size of patch (fragmented landscapes) (12) Connectivity (fragmented landscapes) (13) Context (fragmented landscapes) (14) Distance from permanent water (intact landscapes) 	<ul style="list-style-type: none"> (1) Methodology for Determining Ecological Equivalence (2) Biocondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland (3) Biocondition Benchmarks (4) Methodology for the Establishment and Survey of Reference Sites for BioCondition
Special features	<ul style="list-style-type: none"> (1) Centres of endemism (2) Wildlife refugia (3) Areas with concentrations of disjunct populations (4) Areas with concentrations of taxa at the limits of their geographic ranges (5) Areas with high species richness (6) Areas with concentrations for relictual populations (ancient and primitive taxa) (7) Areas containing regional ecosystems with distinct variation in species composition associated with geomorphology and other environmental variables (8) An artificial waterbody or managed / manipulated wetland of ecological significance (9) Areas with high density of hollow-bearing trees that provide habitat for animals (10) Breeding or roosting sites used by a significant number of individuals (11) Areas identified by the State and located within a state, bioregional, regional, or sub-regional corridor (terrestrial or riparian) (12) Priority species within the bioregion (13) Significance of patch within a one kilometre buffer (14) Areas adjacent to a protected area estate under the <i>Nature Conservation Act 1992</i> 	<ul style="list-style-type: none"> (1) Methodology for Determining Ecological Equivalence (2) Biodiversity Assessment and Mapping Methodology: Criteria H, I, J (3) Biodiversity Planning Assessment: Criteria H, I, J (4) Biodiversity Planning Assessment: Expert Panel Report (5) Protected Areas under the <i>Nature Conservation Act 1992</i>

Module 9. Queensland heritage

9.1 Queensland heritage place state code

9.1.1 Purpose

The purpose of this code is to ensure that development of State heritage places and archaeological places is compatible with the long-term conservation of these places.

The Queensland heritage register contains detailed information for every place which is entered into the register. The information includes the history of the place, and for State heritage places, a statement about the cultural heritage significance of the place (section 31 of the *Queensland Heritage Act 1992*). A place may be entered in the register as a State heritage place if it satisfied one or more of the criteria in section 35 of the *Queensland Heritage Act 1992*, as follows:

- (1) is important in demonstrating the evolution or pattern of Queensland's history
- (2) demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage
- (3) has potential to yield information that will contribute to an understanding of Queensland's history
- (4) is important in demonstrating the principal characteristics of a particular class of cultural places
- (5) is important because of its aesthetic significance
- (6) is important in demonstrating a high degree of creative or technical achievement at a particular period
- (7) has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (8) has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

For archaeological places, the Queensland heritage register entry provides a statement about the place related to the archaeological criteria, which includes the potential of the place to contain an archaeological artefact that is an important source of information about Queensland's history.

The Queensland heritage register entry, statement of significance and statement about the archaeological criteria for an archaeological place should be considered when assessing development on a State heritage place or archaeological place.

9.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 9.1.1

Editor's note: For Queensland heritage places, building work is defined in the *Sustainable Planning Act 2009* section 10 to include relatively minor work, such as:

- (1) altering, repairing, maintaining or moving a built, natural or landscape feature
- (2) excavating, filling or other disturbances to land that may damage, expose or move archaeological artefacts

- (3) altering, repairing or removing artefacts that contribute to the place's cultural heritage significance, including, for example, furniture or fittings
- (4) altering, repairing or removing building finishes that contribute to the place's cultural heritage significance, including, for example, paint, wallpaper or plaster.

Table 9.1.1: All development

Performance outcomes	Acceptable outcomes
State heritage place	
<p>PO1 Development does not destroy or substantially reduce the <u>cultural heritage significance</u> of a <u>State heritage place</u> unless there is no prudent and feasible alternative to carrying out the development.</p>	<p>AO1.1 The <u>features, fabric, contents, archaeological potential</u> and <u>setting</u> of the place, which contribute to <u>cultural heritage significance</u>, are conserved and new <u>fabric</u> or uses are only introduced if they maintain or enhance <u>cultural heritage significance</u>.</p> <p>Editor's note:</p> <ol style="list-style-type: none"> (1) Advice about how to meet this acceptable outcome is available in <i>Guideline: Heritage development</i>, Department of Environment and Heritage Protection 2013. (2) It is recommended that a heritage impact statement be prepared in accordance with <i>Guideline: Preparing a heritage impact statement</i>, Department of Environment and Heritage Protection, 2013 to demonstrate compliance with this acceptable outcome. (3) A conservation management plan may be required for some applications. Refer to <i>Guideline: Conservation management plans</i>, Department of Environment and Heritage Protection, 2013. <p>OR</p> <p>AO1.2 Development destroys or substantially reduces <u>cultural heritage significance</u> only if there is no prudent and feasible alternative. An alternative will not be prudent or feasible if it involves:</p> <ol style="list-style-type: none"> (1) an extraordinary or unacceptable economic cost to the state, the community, a section of the community or an individual, or (2) an extraordinary or unacceptable environmental or social disadvantage, or (3) technical impracticability, or (4) risk to public health or safety, or (5) other unusual or unique circumstances. <p>Editor's note: It is recommended that the application present sufficient options to demonstrate there is no prudent and feasible alternative. The application should:</p> <ol style="list-style-type: none"> (1) consider the option of not proceeding with the development (2) state the optimum development that would result in the minimum impact on cultural heritage (3) outline the whole of the proposed development, not just the part occurring on the <u>place</u> (4) consider options outside the confines of the proposed development (5) include sale, lease or other form of disposal of all or part of the property if this may favour or aid <u>conservation</u>. <p>Further guidance is available in <i>Guideline: No prudent and feasible alternative</i>, Department of Environment and Heritage Protection, 2013.</p> <p>Editor's note: A pre-lodgement meeting is recommended to discuss the likely impact of the development proposal early in the process.</p> <p>Editor's note: Public engagement should take place, including:</p> <ol style="list-style-type: none"> (1) setting up a process and timetable for dialogue about the proposed development with people and organisations having an interest in the heritage values of the <u>place</u>

Performance outcomes	Acceptable outcomes
	(2) identifying the relevant people and organisations, informing them about the development proposal, and offering to engage them in the discussion (3) sharing information and engaging in dialogue aimed at reaching a shared position (4) documenting the engagement process and recording community comment (to be included with the application).
Archaeological place	
PO2 Development does not have a <u>detrimental impact</u> on any <u>archaeological artefact</u> on an <u>archaeological place</u> .	AO2.1 There is no potential for the development to have a <u>detrimental impact</u> on any <u>archaeological artefact</u> on the <u>archaeological place</u> . OR AO2.2 Development on the <u>archaeological place</u> <u>provides</u> for appropriate management of the <u>archaeological artefacts</u> in accordance with the results of an <u>archaeological investigation</u> . <i>Editor's note:</i> Further guidance is available in the <i>Guideline: Archaeological investigations</i> , Department of Environment and Heritage Protection, 2013.

9.2 Reference documents

Australian National Committee of the International Council on Monuments and Sites 1999 [The Burra Charter: The Australia ICOMOS Charter for places of cultural significance](#)

Australian National Committee of the International Council on Monuments and Sites 1988 [Guidelines to the Burra Charter: Cultural significance](#)

Australian National Committee of the International Council on Monuments and Sites 1988 [Guidelines to the Burra Charter: Conservation policy](#)

Australian National Committee of the International Council on Monuments and Sites 1988 [Guidelines to the Burra Charter: Procedures for undertaking studies and reports](#)

Australian National Committee of the International Council on Monuments and Sites 1988 [Code on the ethics of co-existence in conserving significant places](#)

Department of Environment and Heritage Protection 2013 [Guideline: Heritage development](#)

Department of Environment and Heritage Protection 2013 [Guideline: Conservation management plans](#)

Department of Environment and Heritage Protection 2013 [Guideline: Archival recording of heritage places](#)

Department of Environment and Heritage Protection 2013 [Guideline: Preparing a heritage impact statement](#)

Department of Environment and Heritage Protection 2013 [Guideline: No prudent and feasible alternative](#)

Department of Environment and Heritage Protection 2013 [Guideline: Archaeological investigations](#)

Department of Environment and Heritage Protection 2013 [Queensland heritage register](#)

Environmental Protection Agency (Queensland Heritage Council) 2006 [Guideline: Using the criteria: A methodology](#)

9.3 Glossary of terms

Archaeological artefact see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Archaeological artefact means any artefact that is evidence of an aspect of Queensland's history, whether it is located in, on or below the surface of land. Archaeological artefact does not include a thing that is aboriginal cultural heritage under the *Aboriginal Cultural Heritage Act 2003* or Torres Strait Islander cultural heritage under the *Torres Strait Islander Cultural Heritage Act 2003*.

Archaeological potential means potential to reveal an archaeological artefact.

Archaeological investigation see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Archaeological investigation of a place means a physical investigation of the place carried out by an appropriately qualified person for the purpose of investigating, recording or conserving archaeological artefacts on the place.

Archaeological place see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Archaeological place means a place entered on the Queensland heritage register as an archaeological place under Part 5 of the *Queensland Heritage Act 1992*.

Archaeological potential means potential to contain an archaeological artefact.

Conservation means all the processes of looking after a place so as to retain its cultural heritage significance.

Editor's note: This definition has been sourced from the *Burra Charter*, Australia ICOMOS 1979

Cultural heritage significance see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Cultural heritage significance, of a place or feature of a place, means its aesthetic, architectural, historical, scientific, social, or other significance, to the present generation or past or future generations.

Detrimental impact on an archaeological artefact means a detrimental impact on the cultural heritage significance of the archaeological artefact.

Fabric means all the physical material of the place including components, fixtures, contents, and objects.

Editor's note: This definition has been sourced from the Burra Charter

Feature see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Feature in relation to a place, includes the following:

- (1) a building or structure, or part of a building or structure
- (2) an artefact, including an archaeological artefact
- (3) a precinct
- (4) a natural or landscape feature.

Place see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Place—

- (1) means a defined or readily identifiable area of land, whether or not held under two or more titles or owners
- (2) includes:
 - (a) any feature on land mentioned in item 1
 - (b) any part of the immediate surrounds of a feature mentioned in paragraph (a) that may be required for its conservation.

Queensland heritage place means a State heritage place, an archaeological place or a protected area.

Note: This definition has been sourced from the *Queensland Heritage Act 1992*.

Queensland heritage register see the *Queensland Heritage Act 1992*, schedule.

Editor's note: Queensland heritage register means the register kept under Part 3 of the *Queensland Heritage Act 1992*.

Setting means the area around a place, which may include the visual catchment.

Note: This definition has been sourced from the Burra Charter.

State heritage place see the *Queensland Heritage Act 1992*, schedule.

Editor's note: State heritage place means a place entered in the Queensland heritage register as a State heritage place under Part 4 of the *Queensland Heritage Act 1992*.

Use means the functions of a place, as well as the activities and practices that may occur at the place

Editor's note: This definition has been sourced from the *Burra Charter*, Australia ICOMOS 1979

Abbreviations

ICOMOS – International Council On Monuments and Sites

Module 10. Coastal protection

10.1 Tidal works, or development in a coastal management district state code

10.1.1 Purpose

The purpose of this code is to ensure development in coastal areas:

- (1) is managed to protect and conserve environmental, social and economic coastal resources
- (2) enhances the resilience of coastal communities to coastal hazards.

10.1.2 Criteria for assessment tables

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 10.1.1
Operational work	Table 10.1.2
Reconfiguring a lot	Table 10.1.3

Table 10.1.1: All development

Performance outcomes	Acceptable outcomes
<p>PO1 Development in a <u>coastal hazard area</u> is compatible with the level of severity of the <u>coastal hazard</u>.</p>	<p>AO1.1 Development is located outside a <u>high coastal hazard area</u> unless it is:</p> <ol style="list-style-type: none"> (1) <u>coastal-dependent development</u>, or (2) <u>temporary, readily relocatable, or able to be abandoned</u>, or (3) <u>essential community service infrastructure</u>, or (4) <u>small- to medium-scale tourist development</u>, or (5) development that is compatible with temporary inundation due to its nature or function, or (6) within an existing built-up urban area, or is <u>redevelopment</u> of built structures that cannot be relocated or abandoned. <p>AND</p> <p>AO1.2 Development referred to in AO1.1(6) avoids being located within a <u>high coastal hazard area</u>, or where this is not practicable, minimises the exposure of people and permanent structures to <u>coastal hazard impacts</u> and mitigates residual impacts where it is not practicable to locate the development outside a <u>high coastal hazard area</u>.</p>
<p>PO2 Development siting, layout and access in a <u>coastal hazard area</u> responds to a potential <u>coastal hazard</u> and minimises risk to personal safety and property.</p>	<p>AO2.1 Development within a <u>coastal hazard area</u> is located, designed, constructed and operated to maintain or enhance the community's resilience to <u>defined storm tide events</u> and <u>coastal erosion</u> by limiting the exposure of people and structures to <u>coastal hazard impacts</u> and ensuring:</p> <ol style="list-style-type: none"> (1) <u>habitable rooms</u> of built structures are located above the <u>defined storm tide event</u> level and any additional freeboard level that would ordinarily apply in a flood prone area under a relevant planning scheme standard,

Performance outcomes	Acceptable outcomes
	<p>or</p> <p>(2) a safe refuge is available for people within the premises during a <u>defined storm tide event</u>, or</p> <p>(3) at least one evacuation route remains passable for emergency evacuations during a <u>defined storm tide event</u>, including consideration of the capacity of the route to support the evacuation of the entire local population within a reasonably short time frame (for example, 12 hours).</p> <p>AND</p> <p>AO2.2 Development within a <u>coastal hazard area</u> is located, designed and constructed to ensure exposed structures can sustain flooding from a <u>defined storm tide event</u>.</p> <p>AND</p> <p>AO2.3 <u>Essential community service</u> infrastructure is:</p> <p>(4) located so that it is not inundated by a <u>recommended storm tide event</u> specified for that infrastructure, or</p> <p>(5) located and designed to ensure any components of the infrastructure that are likely to fail to function or may result in contamination when inundated by a storm tide (for example, electrical switch gear and motors, water supply pipeline air valves) are:</p> <p>(a) located above the peak water level for a <u>recommended storm tide event</u>, or</p> <p>(b) designed and constructed to exclude storm tide intrusion or infiltration (including by being located in the ground), or</p> <p>(c) able to temporarily stop functioning during a <u>recommended storm tide event</u> without causing significant adverse impacts to the infrastructure or the community.</p> <p>AND</p> <p>AO2.4 Emergency services infrastructure and emergency shelters, police facilities, and hospitals and associated facilities have an emergency rescue area above the peak water level for a <u>recommended storm tide event</u>.</p> <p>AND</p> <p>AO2.5 <u>Redevelopment</u> of existing built structures avoids increasing the exposure of people and permanent structures to adverse <u>coastal hazard impacts</u> (including impacts on the development's ongoing operation).</p>
<p>PO3 Development directly, indirectly and cumulatively avoids an unacceptable increase in the severity of the <u>coastal hazard</u>, and does not significantly increase the potential for damage on the premises or to other premises.</p>	<p>AO3.1 Development avoids increasing the number of premises from which people would need to be evacuated to prevent death or injury from a <u>defined storm tide event</u>.</p>
<p>PO4 Development avoids the release of hazardous materials as a result of a natural hazard event.</p> <p>Editor's note: Applications should:</p> <p>(1) assess the risk of <u>storm tide inundation</u> releasing or otherwise exposing hazardous materials, including appropriate emergency</p>	<p>AO4.1 Development that involves the manufacture or storage of hazardous materials in bulk are designed to:</p> <p>(1) prevent the intrusion of waters from a <u>defined storm tide event</u> into structures or facilities containing the hazardous materials, or</p> <p>(2) ensure hazardous materials remain secured despite inundation, including secure from the effects of <u>hydrodynamic forcing</u> associated with wave action or flowing water.</p>

Performance outcomes	Acceptable outcomes
<p>planning and contingency measures.</p> <p>(2) applications are to be supported by a report certified by a Registered Professional Engineer of Queensland (RPEQ) that demonstrates this performance outcome will be achieved.</p>	
<p>PO5 Natural processes and the protective function of landforms and vegetation are maintained in <u>coastal hazard areas</u>.</p> <p>Editor's note: Applications should be supported by a report certified by an RPEQ that demonstrates this performance outcome will be achieved.</p>	<p>AO5.1 Development in an <u>erosion prone area</u> within the <u>coastal management district</u>:</p> <ol style="list-style-type: none"> (1) maintains vegetation on coastal landforms where its removal or damage may: <ol style="list-style-type: none"> (a) destabilise the area and increase the potential for erosion, or (b) interrupt natural sediment trapping processes or dune or land building processes (2) maintains sediment volumes of dunes and near-shore coastal landforms, or where a reduction in sediment volumes cannot be avoided, increased risks to development from <u>coastal erosion</u> are mitigated by location, design, construction and operating standards (3) <u>maintains physical coastal processes</u> outside the development footprint for the development, including longshore transport of sediment along the coast (4) reduces the risk of shoreline erosion for areas adjacent to the development footprint unless the development is an <u>erosion control structure</u> (5) reduces the risk of shoreline erosion for areas adjacent to the development footprint to the maximum extent feasible in the case of <u>erosion control structures</u>. <p>AND</p> <p>AO5.2 Development in a <u>storm tide inundation area</u> is located, designed, constructed and operated to:</p> <ol style="list-style-type: none"> (1) maintain dune crest heights, or where a reduction in crest heights cannot be avoided, mitigate risks to development from wave overtopping and storm surge inundation (2) maintain or enhance coastal ecosystems and natural features, such as mangroves and coastal wetlands, between the development and <u>tidal waters</u>, where the coastal ecosystems and natural features protect or buffer communities and infrastructure from sea level rise and impacts from <u>storm tide inundation</u>. <p>AND</p> <p>AO5.3 <u>Redevelopment</u> of built structures in the <u>erosion prone area</u> within a <u>coastal management district</u>:</p> <ol style="list-style-type: none"> (1) avoids intensifying the use of the premises, or (2) demonstrates that any intensification of use will not result in a significant increase in <u>foreshore</u> or bank hardening due to: <ol style="list-style-type: none"> (c) the presence of existing <u>erosion control structures</u> on or adjacent to the property, or (d) the existing necessity to install <u>erosion control structures</u> to defend built structures on the property from an imminent threat of <u>coastal erosion</u>.

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p>AO5.4 Development that is <u>coastal protection work</u> involves:</p> <ol style="list-style-type: none"> (1) <u>beach nourishment</u> undertaken in accordance with a program of beach nourishment works that source sediment of a suitable quality and of a type and size which match that of the native sediment usually found at the location, or (2) the construction of an <u>erosion control structure</u>, where it is demonstrated that installing an <u>erosion control structure</u> is the only feasible option for protecting permanent structures from <u>coastal erosion</u> at those structures cannot be abandoned or relocated in the event of <u>coastal erosion</u> occurring. <p>Editor’s note: Applications for <u>coastal protection work</u> should be supported by a report certified by an RPEQ that demonstrates how the engineering solution sought by the work will be achieved.</p> <p>Editor’s note: Applications for <u>erosion control structures</u> should demonstrate the consideration of <u>beach nourishment</u> techniques, and include a statement of why nourishment (in whole or part) has not been adopted as the preferred means of controlling the erosion risk.</p> <p>AND</p> <p>AO5.5 Development involving <u>reclamation</u>:</p> <ol style="list-style-type: none"> (1) does not alter, or otherwise minimises impacts on, the physical characteristics of dune systems, including dune crest height and sand volume (2) does not alter, or otherwise minimises impacts on, the physical characteristics of a waterway or the seabed near the <u>reclamation</u>, including flow regimes, <u>hydrodynamic forces</u>, tidal water and riverbank stability (3) is located outside the active sediment transport area, or otherwise maintains sediment transport processes as close as possible to their natural state (4) ensures activities associated with the operation of the development maintain the structure and condition of vegetation communities and avoid wind and water run-off erosion.
<p>PO6 <u>Erosion prone areas</u> in a <u>coastal management district</u> are maintained as development free buffers, or where permanent buildings or structures exist, <u>coastal erosion</u> risks are avoided or mitigated.</p>	<p>AO6.1 Development locates built structures outside the part of the <u>coastal management district</u> that is the <u>erosion prone area</u> unless the development:</p> <ol style="list-style-type: none"> (1) is <u>coastal-dependent development</u>, or (2) is <u>temporary</u>, readily relocatable, or able to be abandoned, or (3) is essential community service infrastructure, or (4) is located landward of an applicable <u>coastal building line</u>, or (5) is located landward of the alignment of adjacent habitable buildings if there is no <u>coastal building line</u>, and on a lot that is less than 2000 square metres in size, or (6) is <u>redevelopment</u> of existing built structures, or (7) is <u>coastal protection work</u>, or (8) locates built structures landward of other permanent built structures

Performance outcomes	Acceptable outcomes
	<p>that are likely to be defended from coastal erosion, if it is demonstrated the development cannot reasonably be located outside the <u>erosion prone area</u>.</p> <p>AND</p> <p>A06.2 Development referred to in A06.1(4), (5) or (8) above ensures sufficient space is provided seaward of the development within the premises to allow for the construction of <u>erosion control structures</u> (such as a seawall).</p> <p>AND</p> <p>A06.3 Coastal-dependent development:</p> <ol style="list-style-type: none"> (1) locates, designs and constructs relevant buildings or structures to withstand <u>coastal erosion</u> impacts, including by use of appropriate foundations or (2) installs and maintains <u>coastal protection works</u> to mitigate adverse impacts to people and permanent structures from <u>coastal erosion</u> at the location. <p>AND</p> <p>A06.4 Development that is <u>temporary, readily relocatable, able to be abandoned, or essential community service infrastructure</u>:</p> <ol style="list-style-type: none"> (1) locates built structures landward of an applicable <u>coastal building line</u> (2) where there is no <u>coastal building line</u>, locates habitable built structures landward of the alignment of adjacent habitable buildings (3) locates lifesaver towers or beach access infrastructure to minimise its impacts on <u>physical coastal processes</u> or (4) where it is demonstrated that (1) or (2) is not reasonable and (3) does not apply: <ol style="list-style-type: none"> (a) locates built structures as far landward as practicable (b) uses layout design to minimise the footprint of the development that remains within the <u>erosion prone area</u>. <p>AND</p> <p>A06.5 <u>Redevelopment</u> of existing built structures not referred to in A06.4, and excluding <u>marine development</u>:</p> <ol style="list-style-type: none"> (1) relocates built structures outside that part of the <u>erosion prone area</u> that is within the <u>coastal management district</u>, or (2) relocates built structures as far landward as practicable, and landward of an applicable <u>coastal building line</u>, or (3) where there is no <u>coastal building line</u>, relocates built structures landward of the alignment of adjacent habitable buildings, or (4) uses layout design to minimise the footprint of the development that remains within the <u>erosion prone area</u>, or (5) provides sufficient space seaward of the development within the premises to allow for the construction of <u>erosion control structures</u>. <p>AND</p> <p>A06.6 <u>Redevelopment</u> of built structures in the <u>erosion prone area</u> within a <u>coastal management district</u>, which results in an intensification of use,</p>

Performance outcomes	Acceptable outcomes
	<p>mitigates the erosion threat to the development, having regard to:</p> <ul style="list-style-type: none"> (1) use of appropriate foundations for the building or structure, given the practical design life of the development (2) installing and maintaining on-site <u>erosion control structures</u> if the development is not intended to be temporary. <p>AND</p> <p>A06.7 Development that is <u>coastal protection work</u>:</p> <ul style="list-style-type: none"> (1) is in the form of <u>beach nourishment</u> that maintains the natural characteristics and landform of the beach or <u>foreshore</u> or (2) is in the form of an <u>erosion control structure</u> where <u>beach nourishment</u> is not feasible for addressing the risk of <u>coastal erosion</u>, and the <u>erosion control structure</u> is located on private land to the maximum extent feasible.
<p>PO7 Development avoids or minimises adverse impacts on coastal resources and their values, to the maximum extent reasonable.</p>	<p>A07.1 <u>Coastal protection work</u> that is in the form of <u>beach nourishment</u> uses methods of placement suitable for the location that do not interfere with the long-term use of the locality of, or natural values within or neighbouring, the proposed placement site.</p> <p>AND</p> <p>A07.2 <u>Marine development</u> is located and designed to expand on or redevelop existing marine infrastructure unless it is demonstrated that it is not practicable to co-locate the development with existing marine infrastructure.</p> <p>AND</p> <p>A07.3 <u>Marine development</u>:</p> <ul style="list-style-type: none"> (1) relies on a natural channel of a depth adequate for the intended vessels, or (2) where there are no feasible alternative location for the facility in the local area that do not require dredging for navigation channel purposes: <ul style="list-style-type: none"> (c) involves capital <u>dredging</u> for new navigation channel purposes (d) is located, designed and operated to minimise the need for capital and subsequent maintenance <u>dredging</u> for navigation channel purposes. <p>AND</p> <p>A07.4 Development minimises capital <u>dredging</u> or the disposal of material in <u>coastal waters</u> during key biological events (such as fish aggregations or spawning) for species found in the area.</p> <p>AND</p> <p>A07.5 Measures are to be incorporated as part of siting and design of the development to protect and retain identified ecological values and underlying ecosystem processes within or adjacent to the development site to the greatest extent practicable. This includes:</p> <ul style="list-style-type: none"> (1) maintaining or restoring vegetated buffers between development and <u>coastal waters</u> to the extent practicable, unless the development is within ports or airports, or is <u>marine development</u> (2) maintaining or enhancing the connectivity of ecosystems in

Performance outcomes	Acceptable outcomes
	<p>consideration of the cumulative effect of the development in addition to existing developed areas</p> <p>(3) retaining coastal wetlands, seagrass beds and other locally important feeding, nesting or breeding sites for native wildlife.</p> <p>AND</p> <p>A07.6 Measures are incorporated as part of siting and design of the development to maintain or enhance water quality to achieve the <u>environmental values</u> and water quality objectives outlined in the <i>Environmental Protection (Water) Policy 2009</i>.</p> <p>AND</p> <p>A07.7 Development avoids the disturbance of acid sulphate soils, or where it is demonstrated that this is not possible, the disturbance of acid sulphate soils is carefully managed to minimise and mitigate the adverse effects of the disturbance on coastal resources.</p>
<p>PO8 <u>Coastal protection work</u> is undertaken only as a last resort where erosion presents an imminent threat to public safety or permanent structures.</p> <p>Editor's note: Applications for <u>coastal protection work</u> must be supported by a report certified by an RPEQ that demonstrates how the engineering solution sought by the work will be achieved.</p>	<p>A08.1 <u>Coastal protection work</u> is only undertaken to protect existing permanent structures from imminent adverse <u>coastal erosion</u> impacts, and the structures cannot reasonably be relocated or abandoned.</p> <p>AND</p> <p>A08.2 <u>Coastal protection work</u> is undertaken on private land to the maximum extent reasonable.</p> <p>AND</p> <p>A08.3 <u>Coastal protection work</u> does not increase the <u>coastal hazard</u> risk for adjacent areas or properties.</p>
<p>PO9 Development avoids adverse impacts on <u>matters of state environmental significance</u>, or where this is not reasonably possible, impacts are minimised and residual impacts are offset.</p>	<p>A09.1 Development:</p> <p>(1) is set back from <u>matters of state environmental significance</u></p> <p>(2) avoids interrupting, interfering or otherwise adversely impacting underlying natural ecosystem components or processes and interactions that affect or maintain the <u>matters of state environmental significance</u>, such as water quality, hydrology, geomorphology and biological processes, or</p> <p>(3) incorporates measures as part of its location and design to protect and retain <u>matters of state environmental significance</u> and underlying ecosystem processes within and adjacent to the development site to the greatest extent practicable.</p> <p>Editor's note: Applications for development should identify any threatened species or their habitats, or threatened ecosystems, that may be affected by the proposal. In particular, applications should identify and describe how the development avoids adverse impacts on any critical life stage ecological processes within or adjacent to the development area.</p> <p>AND</p> <p>A09.2 An <u>environmental offset</u> is provided for any unavoidable significant residual impact on <u>matters of state environmental significance</u> caused by the development.</p> <p>Editor's note: Applications for development should identify anticipated losses, and outline what actions are proposed to be undertaken to offset the loss in accordance with the relevant <i>Queensland Government Environmental Offset Policy</i> available from</p>

Performance outcomes	Acceptable outcomes
	the Department of Environment and Heritage Protection library catalogue.
<p>PO10 Development maintains or enhances general public access to or along the <u>foreshore</u>, unless this is contrary to the protection of coastal resources or public safety.</p>	<p>AO10.1 Development adjacent to <u>state coastal land</u> or tidal water:</p> <ol style="list-style-type: none"> (1) demonstrates that restrictions to public access are necessary for: <ol style="list-style-type: none"> (a) the safe or secure operation of development, or (b) the maintenance of coastal landforms and coastal habitat (2) separates residential, tourist and retail development from tidal water with public areas or public access facilities, or (3) maintains existing public access (including public access infrastructure that has been approved by the local government or relevant authority) through the site to the <u>foreshore</u> for: <ol style="list-style-type: none"> (a) pedestrians, via access points including approved walking tracks, boardwalks and viewing platforms, or (b) vehicles, via access points including approved roads or tracks. <p>AND</p> <p>AO10.2 Development adjacent to <u>state coastal land</u>, including land under tidal water:</p> <ol style="list-style-type: none"> (1) is located and designed to: <ol style="list-style-type: none"> (a) allow safe and unimpeded access to, over, under or around built structures located on, over or along the <u>foreshore</u> (b) ensure emergency vehicles can access the area near the development, or (2) minimises and offsets any loss of access to and along the <u>foreshore</u> within two kilometres of the existing access points, and the access is located and designed to be consistent with (1)(a) and (b). <p>AND</p> <p>AO10.3 Any parts of <u>private marine development</u> that extend over tidal water are to be designed, constructed and used for marine access purposes only.</p>
<p>PO11 Development avoids structures attaching to, or extending across, non-tidal <u>state coastal land</u> abutting <u>tidal waters</u>.</p>	<p>AO11.1 <u>Private marine development</u> and other structures such as decks or boardwalks for private use do not attach to, or extend across <u>state coastal land</u> that is situated above the high water mark.</p> <p>Editor's note: For occupation permits or allocations of State land, refer to the <i>Land Act 1994</i>.</p>
<p>PO12 Further development of <u>canals</u>, <u>dry land marinas</u> and <u>artificial waterways</u> avoids or minimises adverse impacts on coastal resources and their values, and does not contribute to:</p> <ol style="list-style-type: none"> (1) degradation of water quality (2) an increase in the risk of flooding (3) degradation and loss of <u>matters of state environmental significance</u> (including, but not limited to, coastal wetlands, fish habitat areas and migratory species habitat). 	<p>AO12.1 The design, construction and operation of artificial tidal waterways maintains the <u>tidal prism volume</u> of the natural waterway to which it is connected.</p> <p>AND</p> <p>AO12.2 The design, construction and operation of artificial tidal waterways does not increase the number of premises vulnerable to flooding from a <u>defined storm tide event</u>.</p> <p>AND</p> <p>AO12.3 The location of <u>artificial waterways</u> avoids <u>matters of state environmental significance</u>, or does not result in any significant adverse effect on <u>matters of state environmental significance</u>.</p>

Performance outcomes	Acceptable outcomes
<p>PO13 Development does not involve <u>reclamation</u> of land below the <u>highest astronomical tide</u>, other than for the purposes of:</p> <ol style="list-style-type: none"> (1) <u>coastal-dependent development</u>, public <u>marine development</u> or community infrastructure (2) strategic ports, boat harbours or strategic airports and aviation facilities, in accordance with a statutory land use plan, where there is a demonstrated net benefit for the state or region and no feasible alternative exists (3) <u>coastal protection work</u> or work necessary to protect coastal resources or <u>physical coastal processes</u>. 	<p>No acceptable outcome is prescribed.</p>

Table 10.1.2: Operational work

Performance outcomes	Acceptable outcomes
<p>PO1 Tidal works that is <u>private marine development</u> does not result in adverse impacts to tidal land.</p> <p>Editor's note: In addressing this performance outcome, the applicant should also have regard to requirements for <u>private marine development</u> in the prescribed tidal works code in the Coastal Protection and Management Regulation 2003.</p> <p>Editor's note; Applications should be supported by a report certified by an RPEQ to demonstrate compliance with this performance outcome.</p>	<p>AO1.1 The location and design of tidal works that is <u>private marine development</u>:</p> <ol style="list-style-type: none"> (1) is on private land abutting <u>state tidal land</u> and used for property access purposes (2) occupies the minimum area reasonably required for its designed purpose (3) is not to be roofed or otherwise covered (4) does not require the construction of <u>coastal protection works</u>, riverbank hardening or <u>dredging</u> for marine access (5) does not adversely impact on public safety or public access and use of the <u>foreshore</u>.
<p>PO2 Development does not result in the disposal of material dredged from an <u>artificial waterway</u> into <u>coastal waters</u>, with the exception of:</p> <ol style="list-style-type: none"> (1) <u>reclamation</u> works, or (2) <u>coastal protection works</u>, or (3) the maintenance of an existing <u>artificial waterway</u> and the at-sea disposal of material that has previously been approved for the waterway. 	<p>No acceptable outcome prescribed.</p>
<p>PO3 Development includes and complies with a dredge management plan that demonstrates how environmental impacts will be managed and mitigated, and how the requirements of the <i>National Assessment Guidelines for Dredging</i>,</p>	<p>AO3.1 A dredge management plan for the development:</p> <ol style="list-style-type: none"> (1) directs the operation of the development (2) identifies disposal methods and disposal sites for the removed material for the construction and operational phases of the development

Performance outcomes	Acceptable outcomes
<p>Australia Government Department of the Environment, Water, Heritage and the Arts, 2009 will be met.</p>	<p>(3) outlines how any adverse effects from extraction activities on sediment transport processes and/or adjacent coastal landforms will be mitigated or otherwise remediated by suitably planned and implemented <u>beach nourishment</u> and rehabilitation works.</p> <p>Editor's note: The development must comply with the <i>National assessment guidelines for dredging</i>, Australian Government Department of Environment, Water, Heritage and the Arts, 2009</p> <p>AND</p> <p>AO3.2 For land based disposal of <u>dredged material</u>, any area used for storing, dewatering, drying or rehandling dredge material as outlined in the dredge management plan is:</p> <ol style="list-style-type: none"> (1) of sufficient size for the projected volume of dredged material from relevant capital or maintenance <u>dredging</u> (2) protected from future development that would compromise the use of the area for its intended purpose of spoil dewatering. <p>AND</p> <p>AO3.3 For at-sea disposal of suitable <u>dredged material</u>, the dredge management plan specifies that material is placed at a dredged material disposal site only if it is demonstrated that it is not feasible to:</p> <ol style="list-style-type: none"> (1) dispose of the material above the high water mark, if the material is from maintenance works for an existing <u>artificial waterway</u> for which at-sea disposal was previously approved, or (2) keep the <u>dredged material</u> within the active sediment transport system for the locality, or (3) use the material for <u>beach nourishment</u> or another beneficial purpose. <p>AND</p> <p>AO3.4 For at-sea disposal of <u>dredged material</u> where the marine spoil disposal site is a retentive (i.e. non-dispersive) site, the disposal site identified in the dredge management plan has the capacity to hold and retain the material within its boundaries during construction and operation of the development.</p> <p>Editor's note: The use of dredged material for a beneficial purpose uses of <u>dredged material</u> could include development of port or other marine facilities, use for construction or industrial purposes, or use to create or modify land or waters for an approved environmental outcome (such as creation of a bird roosting site). Further information about beneficial uses is contained in the <i>National assessment guidelines for dredging</i>, Australian Government Department of Environment, Water, Heritage and the Arts, 2009.</p>
Within a wild river area: riparian and wildlife corridor functions	
PO4 The clearing of native marine plants within a wild river area is minimised.	AO4.1 Clearing of marine plants within a wild river area can only occur to the extent of the works, plus the prescribed area around the development to allow for maintenance.
PO5 Development within a wild river area does not impact fish passage.	No acceptable outcome is prescribed.
PO6 There is no net loss in marine plants	AO6.1 Any marine plant damaged during construction in a wild river area is

Performance outcomes	Acceptable outcomes
beyond the extent of the works in a wild river area.	replaced at the completion of the development with the same species of plant in the disturbed area outside the footprint of the development.
PO7 Works within a wild river area does not impact on fish habitat values.	AO7.1 Works located in tidal waters within a wild river area are designed and constructed using materials, and located to ensure that the activities do not impact on fish habitat values and function.
Within a wild river area: hydrological processes	
PO8 Development within a wild river area does not impound natural drainage lines or flow paths, during both construction and operation.	No acceptable outcome is prescribed.
Within a wild river area: geomorphic processes	
PO9 Excavation and filling for prescribed tidal work within a wild river area is carried out only to the extent necessary for the development.	No acceptable outcome is prescribed.
PO10 Works in a tidal area within a wild river area are designed and constructed in a way to ensure they do not adversely affect the stability of the bed and banks of any waterway.	AO10.1 Where it is necessary to remove a marine plant, the root system must be left in the substrate to minimise disturbance to bed and banks. AND AO10.2 When the works are completed, any tidal lands disturbed by activities beyond the footprint of the works are restored to pre-disturbance condition to promote natural restoration of marine plants and fish habitats.
Within a wild river area: water quality	
PO11 No pollutants are released from the activity.	No acceptable outcome is prescribed.

Table 10.1.3: Reconfiguring a lot

Performance outcomes	Acceptable outcomes
PO1 <u>Erosion prone areas</u> in a <u>coastal management district</u> are maintained as development free buffers, or where permanent buildings or structures exist, <u>coastal erosion</u> risks are avoided or mitigated.	AO1.1 Where reconfiguring a lot is proposed within the <u>coastal management district</u> , the <u>erosion prone area</u> within the lot, or land within 40 metres of the <u>foreshore</u> (whichever is greater), is surrendered to the State for public use unless: <ol style="list-style-type: none"> (1) the development is in a port or is for <u>coastal-dependent development</u> or (2) the surrender of the land will not enhance coastal management outcomes, for example, because there is already substantial development seaward of the lot. Editor's note: Land surrendered to the State for public use under AO1.1 is to be: <ol style="list-style-type: none"> (1) placed in a State land reserve for beach protection and coastal management purposes under the <i>Land Act 1994</i>, with local government as trustee, or (2) managed for beach protection and coastal management purposes under another management regime to the satisfaction of the chief executive administering the <i>Coastal Protection and Management Act 1995</i> and <i>Land Act 1994</i>, if it is demonstrated that AO1.2(1) cannot be reasonably achieved.
PO2 Development maintains or enhances general public access to or along the <u>foreshore</u> ,	AO2.1 Reconfiguring a lot that abuts the <u>foreshore</u> or tidal waters involves the creation of 10 or more lots or the opening of a new road, unless it is for

Performance outcomes	Acceptable outcomes
unless this is contrary to the protection of coastal resources or public safety.	<u>coastal-dependent development.</u>

10.2 Reference documents

Department of Environment and Heritage [Certification \(statutory declaration\): Design of tidal works](#)

Department of Environment and Heritage 2013 [Building and engineering standards for tidal works](#)

Department of Environment and Heritage [Removal or interfering with coastal dunes in an erosion prone area on land other than State coastal land](#)

Department of Environment and Heritage 2013 [Guideline: Approval requirements for local government works in coastal management district](#)

Department of Environment and Heritage 2013 [Guideline: Building work seaward of a coastal building line](#)

Department of Environment and Heritage 2012 [Guideline: Constructing tidal works](#)

Department of Environment and Heritage 2013 [Guideline: Operational work on State coastal land](#)

Department of Environment and Heritage 2013 [Guideline: Preparing a water allocation area for tidal works](#)

Australian Government Department of Environment, Water Heritage and the Arts 2009 [National assessment guidelines for dredging](#)

Queensland Government [Environmental Offsets website](#)

10.3 Glossary of terms

Annual exceedance probability means the likelihood of occurrence of a flood of a given size or larger in any one year, usually expressed as a percentage.

Artificial waterway—means an artificial channel, lake or other body of water.

Note: This definition was sourced from the *Coastal Protection and Management Act 1995*.

Beach nourishment means the replenishment of a beach system using imported sediment to balance erosion losses or to re-establish a wider dunal buffer zone.

Canal see the *Coastal Protection and Management Act 1995*, schedule

Editor's note: Canal means an artificial waterway:

- (1) connected, or intended to be connected, to tidal water
- (2) from which boating access to the tidal water is not hindered by a lock, weir or similar structure.

Coastal building line see the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: Coastal building line means a line declared as a coastal building line under the *Coastal Protection and Management Act 1995*.

Coastal-dependent development means development that requires land adjoining the foreshore and access to tidal water to function and includes:

- (1) industrial and commercial facilities such as ports, harbours and navigation channels and facilities, aquaculture involving marine species, desalination plants, tidal generators, erosion control structures and beach nourishment
- (2) tourism facilities for marine (boating) purposes or that are part of an integrated development proposal incorporating a marina.

The term does not include residential development, waste management facilities (landfills, sewerage treatment plants) or transport infrastructure (other than for access to the coast).

Coastal erosion means the wearing away of land or the removal of beach or dune sediments by wave or wind action, tidal currents and water flows.

Coastal hazard see the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: Coastal hazard means erosion of the foreshore or tidal inundation.

Coastal hazard area means a storm tide inundation area or an erosion prone area.

Coastal hazard impact means the impact resulting from one or more of the following:

- (1) coastal erosion within an erosion prone area that is also within the coastal management district
- (2) a defined storm tide event
- (3) the permanent inundation of land due to a sea-level rise of 0.8 metres by the year 2100.

Coastal management district see the *Sustainable Planning Act 2009*

Editor's note: Coastal management district means a coastal management district under the *Coastal Protection and Management Act 1995*, other than an area declared as a coastal management district under section 54(2) of that Act.

Coastal protection work means any permanent or periodic work undertaken primarily to manage the impacts of coastal hazards, including altering physical coastal processes such as sediment transport.

Coastal waters see the *Coastal Protection and Management Act 1995*, section 13.

Editor's note: Coastal waters means Queensland waters to the limit of the highest astronomical tide.

Defined storm tide event (DSTE) means the event, measured in terms of likelihood of reoccurrence, and associated inundation level adopted to manage the development of a particular area.

Except in the case of redevelopment, the DSTE is equivalent to a one in 100 year average recurrence interval storm event incorporating:

- (1) a projected sea level rise of 0.8 metres by the year 2100
- (2) an increase in cyclone intensity by 10 per cent relative to maximum potential intensity.

In the case of redevelopment, the DSTE is equivalent to a one in 100 year average recurrence interval storm event incorporating:

- (1) an increase in cyclone intensity by 10 per cent relative to maximum potential intensity, and
- (2) a projected sea level rise of the amount outlined in table 10.3.1 based on the year of end of design life for the design life outlined for development in table 10.3.2.

Table 10.3.1: Projected sea-level rise for the year of the end of design life as per table 10.3.2

Year of end of design life	Projected sea level rise
Year 2050	0.3 metres
Year 2060	0.4 metres
Year 2070	0.5 metres
Year 2080	0.6 metres
Year 2090	0.7 metres
Year 2100	0.8 metres

Table 10.3.2. Design life for redevelopment

Type of development	Design life
Commercial buildings Industrial buildings Short-term tourist accommodation Residential dwellings including multi-storey unit blocks of 10 dwellings or less.	40 years
Multi-storey residential buildings of more than 10 dwellings. Reconfiguring a lot for urban purposes that involves the provision of new public infrastructure such as roads, water connections or sewage connections. Permanent community infrastructure such as sewage treatment plants.	90 years +

Defined storm tide event level means the peak water level reached during a defined storm tide event.

Dredged material means mud, sand, coral, ballast, shingle, gravel, clay, earth and other material removed by dredging from the bed of tidal waters.

Dredging means the mechanical removal of dredged material from below tidal water.

Dry land marina means a marina created by the excavation of land above high water mark.

Environmental offset see the *Sustainable Planning Act 2009*, section 346A.

Editor's note: Environmental offset means works or activities undertaken to counterbalance the impacts of a development on the natural environment.

Environmental value see the *Environmental Protection Act 1994*, section 9.

Editor's note: The *Environmental Protection (Water) Policy 2009* states the environmental values of waters.

Editor's note: Environmental value is:

- (1) a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or
- (2) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation.

Erosion prone area see the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: Erosion prone area means an area declared to be an erosion prone area under section 70(1) of the *Coastal Protection and Management Act 1995*.

Erosion control structure means a structure designed to protect land or to permanently alter sediment transport processes and includes a structure such as a seawall or revetment (rock walls), groyne, artificial reef, or breakwater.

Essential community service infrastructure includes:

- (1) emergency services infrastructure;
- (2) emergency shelters;
- (3) police facilities;
- (4) hospitals and associated facilities;
- (5) stores of valuable records or heritage items;
- (6) power stations and substations;
- (7) major switch yards;
- (8) communications facilities;
- (9) sewerage treatment plants;
- (10) water treatment plants.

Fish habitat see the *Fisheries Act 1994*.

Editor's note: Fish habitat includes land, waters and plants associated with the life cycle of fish, and includes land and water occupied by fisheries resources.

Foreshore see the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: Foreshore means the land lying between the high water mark and low water mark as is ordinarily covered and uncovered by the flow and ebb of the tide at spring tides.

Habitable Room see the Building Code of Australia.

Editor's note: Habitable room means a room used for normal domestic activities, and includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom but excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

High coastal hazard area means:

- (1) the part of the erosion prone area that is within the coastal management district
- (2) land that is projected to be permanently inundated due to 0.8 metre sea-level rise by the year 2100
- (3) the part of the storm tide inundation area that is projected to be temporarily inundated to a depth of one metre or more during a defined storm-tide event.

Highest astronomical tide (HAT) means the highest tide level that can be predicted to occur under average meteorological conditions and any combination of astronomical conditions. This level will not be reached every year, and is less than the extreme levels that can be caused by storm tides.

Hydrodynamic forcing means the force exerted on its surroundings by a moving body of water (for example, force exerted on a structure by waves).

Marine development means maritime infrastructure that is related to navigation, shipping and boating.

Matters of state environmental significance means the following natural values and areas protected under state environmental legislation:

- (1) protected area estates (including all classes of protected area except nature refuges and coordinated conservation areas) under the *Nature Conservation Act 1992*
- (2) marine parks (including 'marine national park', 'marine conservation park', 'scientific research', 'preservation' and 'buffer' zones) under the *Marine Parks Act 2004*
- (3) fish habitat areas A and B under the *Fisheries Act 1994*
- (4) threatened species (including plants, animals and animal breeding places) under the *Nature Conservation Act 1992*
- (5) regulated vegetation under the *Vegetation Management Act 2009* including:
 - (a) regional ecosystems identified as 'endangered', 'of concern', 'connectivity areas', 'critically limited', 'threshold', 'wetland'
 - (b) 'high value regrowth' areas containing 'endangered' or 'of concern' regional ecosystems
 - (c) regional ecosystems identified as 'watercourse'
- (6) high preservation areas of wild river areas under the *Wild Rivers Act 2005*
- (7) high conservation value wetlands under the *Environment Protection Act 1994* including:
 - (a) wetlands assessed as containing 'high' or 'very high' values via a conservation assessment, or
 - (b) where a conservation assessment has not yet been completed; wetlands that intersect with areas shown in the 'Directory of Important Wetlands' and high ecological value wetlands and waterways declared under the *Environmental Protection (Water) Policy 2009*
- (8) legally secured offset areas.

Physical coastal processes means the natural processes of the coast including sediment transport; fluctuations in the location and form of the foreshore, dune systems and associated ecosystems; tides; changes in sea level and coastal hazards (for example, storm-tide), ecological processes (for example, migration of plant and animal species) and the natural water cycle (for example, coastal wetlands' role in nutrient filtration and flood mitigation).

Private marine development means marine development constructed to provide private access to private land from tidal water for non-commercial purposes, including jetties, ramps, floating docks, fixed piers and gangways.

Reclamation of land under tidal water see the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: Reclamation of land under tidal water means raising the land above the high water mark, whether gradually and imperceptibly or otherwise, by carrying out works, including dredging and the depositing of solid material.

Recommended storm tide event (RSTE) means the recommended storm tide event level in table 10.3.3, column 2 for the infrastructure mentioned in table 10.3.3, column 1.

Table 10.3.3: Recommended storm tide event levels for essential community service infrastructure

Type of Infrastructure	Recommended storm tide event level (annual exceedance probability).
Hospitals and associated facilities Emergency service facilities* Power stations	0.2%
Major switch yards and substations* Police facilities* School facilities Stores of valuable records or items of historic or cultural significance (e.g. galleries and libraries) Water treatment plants*	0.5%
* The RSTE level applies only to electrical and other equipment that, if damaged by floodwater or debris, would prevent the infrastructure from functioning.	

Redevelopment means development that affects permanent built structures on an already developed site. Redevelopment includes the expansion of a building footprint or addition of a structure, reconstruction or remodelling an exterior, demolition and replacement of existing structures, or the establishment of an alternative type of use and associated land disturbing activities.

Small to medium-scale tourist development means development catering for short-term accommodation for tourist activity that contains no more than 300 persons and any associated ancillary facilities.

State coastal land see the *Coastal Protection and Management Act 1995*, section 17.

Editor's note: State coastal land—means land in a coastal management district other than land that is:

- (1) freehold land, or land contracted to be granted in fee simple by the state; or
- (2) a state forest or timber reserve under the *Forestry Act 1959*; or
- (3) in a watercourse or lake as defined under the *Water Act 2000*; or
- (4) subject to a lease or licence issued by the state.

State tidal land the *Coastal Protection and Management Act 1995*, schedule.

Editor's note: State tidal land means land in the coastal zone other than the following:

- (1) land for which a lease under the *Land Act 1994* is granted
- (2) land for which a permit to occupy is issued under the *Land Act 1994*
- (3) freehold land, including inundated land
- (4) a reserve under the *Land Act 1994*

- (5) land on the landward side of a tidal boundary or right line tidal boundary.

Storm tide inundation means temporary inundation of land by abnormally high ocean levels caused by cyclones and severe storms.

Storm tide inundation area means the area of land determined to be inundated during a storm tide event that is defined by applying the following factors:

- (1) For redevelopment, the factors outlined in Table 10.3.4, column 1
- (2) For any other development, the factors outlined in Table 10.3.5, column 2.

Table 10.3.4 Factors for defining a storm tide event to determine the storm tide inundation area

Column 1	Column 2
Redevelopment	All other development
Planning period equivalent to the design life of the development, as outlined in Table 10.3.2 Projected sea level rise of the amount outlined in Table 10.3.6, based on expected year of end of design life Adoption of the 1 in 100 year average recurrence interval storm event or water level Increase in cyclone intensity by 10% (relative to maximum potential intensity)	Planning period of 90+ years Projected sea level rise of 0.8 metres by the year 2100 Adoption of the 1 in 100 year average recurrence interval storm event or water level Increase in cyclone intensity by 10% (relative to maximum potential intensity)

Table 10.3.5 Design life for redevelopment

Type of development	Design life
Commercial buildings Industrial buildings Short-term tourist accommodation Residential dwellings, including multi-storey unit blocks of 10 dwellings or less	40 years
Multi-storey residential buildings of more than 10 dwellings Reconfiguring a lot for urban purposes that involves the provision of new public infrastructure such as roads, water connections or sewage connections Permanent community infrastructure such as sewage treatment plants	90 years +

Table 10.3.6 Projected sea level rise for the year of the end of design life as per Table 10.3.5

Year of end of design life	Projected sea level rise
Year 2050	0.3 metres
Year 2060	0.4 metres
Year 2070	0.5 metres
Year 2080	0.6 metres
Year 2090	0.7 metres
Year 2100	0.8 metres

Temporary, readily relocatable or able to be abandoned development—means a land use or structure that, if threatened by adverse coastal hazard impacts, will be relocated, or discontinued and removed rather than protected from the impacts because:

- (1) it is not anticipated to remain in place for more than 10 years and/or is capable of being disassembled and/or easily removed
- (2) there will be negligible adverse economic or social consequences associated with its relocation, or from it being discontinued or removed.

Tidal prism volume means the volume of water in an estuary or inlet between mean high tide and mean low tide, or the volume of water leaving an estuary at ebb tide.

Abbreviations:

AEP – Annual Exceedance Probability

DSTE – Defined Storm Tide Event

RSTE – Recommended Storm Tide Event

Module 11. Wetland protection and wild river areas

11.1 Wetland protection area state code

11.1.1 Purpose

The purpose of this code is to ensure that development in wetland protection areas is planned, designed, constructed and operated to prevent the loss or degradation of wetland environmental values, or enhances the values of wetlands within these areas.

11.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 11.1.1
Operational work	Table 11.1.1
Reconfiguring a lot	Table 11.1.1

Table 11.1.1: All development

Performance outcomes	Acceptable outcomes
<p>PO1 Development is not carried out in a <u>wetland in a wetland protection area</u> unless it</p> <ol style="list-style-type: none"> (1) there is an <u>overriding need</u> in the public interest, or (2) the development is a <u>development commitment</u>, or (3) the development is for community infrastructure. <p>Editor's note: There is an <u>overriding need</u> in the public interest only if the overall social, economic and environmental benefits of the development outweigh—</p> <ol style="list-style-type: none"> (1) Any detrimental effect upon the wetland (2) The development cannot be located elsewhere so as to avoid conflict with PO1. <p>The following does not establish an <u>overriding need</u> in the public interest:</p> <ol style="list-style-type: none"> (1) Uses with relatively few location based requirements (2) Interests in or options over land availability or ownership of land. 	<p>AO1.1 Development is located outside:</p> <ol style="list-style-type: none"> (1) the mapped boundary of a <u>wetland in a wetland protection area</u>, or (2) an alternative mapped boundary of the <u>wetland in a wetland protection area</u>: <ol style="list-style-type: none"> (a) submitted as part of the development application, and (b) supported by a site assessment and analysis of the wetland to delineate its extent, in accordance with the Department of Environment and Heritage Protection <i>Queensland wetland definition and delineation guidelines</i> (as updated from time to time) available on the Department of Environment and Heritage Protection website, if the chief executive is satisfied the alternative is a more accurate representation of the boundary. <p>OR</p> <p>AO1.2 Development in a <u>wetland in a wetland protection area</u> provides an <u>environmental offset</u> for any adverse impact that cannot be avoided, in accordance with PO13 (except where development arises from, and is necessary to give effect to a current <u>development approval</u>).</p>

Performance outcomes	Acceptable outcomes
<p>PO2 An adequate <u>buffer</u> to a <u>wetland</u> in a <u>wetland protection area</u> is provided and maintained.</p>	<p>AO2.1 A <u>buffer</u> surrounding a <u>wetland</u> in a <u>wetland protection area</u> is provided and has a minimum width of:</p> <ol style="list-style-type: none"> (1) 200 metres, where the wetland is located outside an <u>urban area</u>, or (2) 50 metres, where the wetland is located within an <u>urban area</u>. <p>OR</p> <p>AO2.2 An alternative <u>buffer</u> is provided, the width of which is supported by evaluation of the <u>environmental values</u> and functioning of, and threats to, the wetland in a <u>wetland protection area</u>.</p> <p>Editor's note: The <i>Queensland wetland buffer guideline</i>, Department of Environment and Heritage, 2011 should be referred to when planning detailed <u>buffer</u> design to position development, determine any alternative <u>buffer</u> widths, and establish operating measures that avoid adverse impacts on a wetland.</p>
Hydrology	
<p>PO3 The existing surface <u>water hydrological regime</u> of the <u>wetland protection area</u> (including the area of the wetland) is enhanced or maintained.</p>	<p>AO3.1 Development must:</p> <ol style="list-style-type: none"> (1) provide a net ecological benefit and improvement to the <u>environmental values</u> and functioning of a <u>wetland</u> in a <u>wetland protection area</u>, and (2) rehabilitate the existing <u>hydrological regime</u>, or restore the natural <u>hydrological regime</u> of the <u>wetland</u> in a <u>wetland protection area</u> to enhance the ecological functions and biodiversity values of the wetland. <p>Editor's note: Refer to the <i>Wetland rehabilitation guidelines for the Great Barrier Reef catchment</i>, Department of Environment and Heritage, 2008.</p> <p>OR</p> <p>AO3.2 Development does not change the existing surface <u>water hydrological regime</u> of a <u>wetland</u> in a <u>wetland protection area</u>, including through channelisation, redirection or interruption of flows.</p> <p>Editor's note: An assessment of the extent of change should take into account the natural variability of the <u>hydrological regime</u> of the wetland.</p> <p>OR</p> <p>AO3.3 The extent of any change to the existing surface <u>water hydrological regime</u> is minimised to ensure wetland values and functioning are protected. The change is minimised if:</p> <ol style="list-style-type: none"> (1) there is no change to the reference duration high-flow and low-flow duration frequency curves, low-flow spells frequency curve and mean annual flow to and from the wetland (2) any relevant stream flows into the wetland comply with the relevant flow objectives of the applicable water resource plan for the area (3) for development resulting in an increase to the velocity or volume of stormwater flows into the wetland—the collection and re-use of stormwater occurs in accordance with (1) and (2).
<p>PO4 The existing groundwater <u>hydrological regime</u> of the <u>wetland protection area</u> (including the area of the wetland) is enhanced or protected.</p>	<p>AO4.1 The <u>water table</u> and hydrostatic pressure in the <u>wetland protection area</u> are returned to their natural state.</p> <p>OR</p> <p>AO4.2 The <u>water table</u> and hydrostatic pressure in the <u>wetland protection area</u> is</p>

Performance outcomes	Acceptable outcomes
	<p>not lowered or raised outside the bounds of variability of existing pre-development conditions.</p> <p>AND</p> <p>AO4.3 Development does not result in the ingress of saline <u>water</u> into freshwater aquifers.</p>
In an urban area	
<p>PO5 During construction and operation of development in a <u>wetland in a wetland protection area</u>:</p> <p>(1) a <u>wetland in a wetland protection area</u> is not used for stormwater treatment</p> <p>(2) the <u>buffer</u> for and <u>water</u> quality values of a <u>wetland in a wetland protection area</u> are protected from stormwater impacts.</p>	<p>AO5.1 Development in an <u>urban area</u> does not result in any measurable change to the quantity or quality of stormwater entering a <u>wetland in a wetland protection area</u> during construction or operation.</p> <p>AND</p> <p>AO5.2 Development in a <u>wetland protection area</u> in an <u>urban area</u> manages stormwater quantity and quality in accordance with best practice environmental management for erosion and sediment control in the <i>Queensland urban stormwater quality planning guidelines</i>, Department of Environment and Heritage, 2010.</p> <p>AND</p> <p>AO5.3 During the construction if development in a <u>wetland protection area</u> in an <u>urban area</u>, erosion and sediment control practices, including approved proprietary products, are designed, installed, constructed, maintained and monitored in accordance with local conditions and recommendations by suitably qualified persons or professionals. During construction, development also incorporates erosion and sediment control measures to achieve best practice design objectives.</p> <p>Editor’s note: It is recommended that an erosion and sediment control plan should be prepared by a Registered Professional Engineer of Queensland (RPEQ) to demonstrate compliance with AO5.2 and AO5.3.</p> <p>AND</p> <p>AO5.4 During construction of development in a <u>wetland protection area</u> in an <u>urban area</u>, release of sediment-laden stormwater is avoided for the nominated design storm, and minimised if the design storm is exceeded, consistent with an erosion and sediment control plan for the development which includes the following best practice: principles</p> <p>(1) stormwater run-off during any construction works is diverted or by-passed around a wetland</p> <p>(2) all stormwater run-off saved for dewatering flow from site catchments achieves a maximum concentration of 50 milligrams per litre of total suspended solids</p> <p>(3) all drainage lines, diversion and collection drains and bank, chutes and outlets are able to safely carry peak flow in accordance with the <i>Queensland urban stormwater quality planning guidelines</i>, Department of Environment and Heritage, 2010.</p> <p>AND</p> <p>AO5.5 During construction of development in a <u>wetland protection area</u> in an</p>

Performance outcomes	Acceptable outcomes
	<p><u>urban area</u>, erosion and sediment control practices, including approved proprietary products, are designed, installed, constructed, maintained and monitored in accordance with local conditions and recommendations by suitably qualified persons or professionals.</p> <p>AND</p> <p>A05.6 During operation of development in a <u>wetland protection area</u> in an <u>urban area</u>, stormwater discharges are treated in accordance with best practice load reduction design objectives before stormwater flow enters the <u>buffer</u> for a wetland. Stormwater treatment should address pollutants including, but not limited to:</p> <ol style="list-style-type: none"> (1) total suspended solids (2) total phosphorus (3) total nitrogen (4) gross pollutants >5 millimetres. <p>AND</p> <p>A05.7 During operation of development in a <u>wetland protection area</u> in an <u>urban area</u>, development incorporates stormwater flow control measures to achieve best practice design objectives.</p>
Outside an urban area	
<p>PO6 During construction and operation of development in a <u>wetland protection area</u> outside an <u>urban area</u>:</p> <ol style="list-style-type: none"> (1) a wetland is not used for stormwater treatment (2) the buffer for and water quality values of a wetland are protected from stormwater impacts. 	<p>A06.1 Development in a wetland protection area outside an <u>urban area</u> does not result in any measurable change to the quantity or quality of stormwater entering a wetland during construction or operation.</p>
Ecological values	
<p>PO7 Development involving the <u>clearing of vegetation</u> protects the biodiversity, ecological values and processes, and hydrological functioning of a <u>wetland in wetland protection area</u>, including:</p> <ol style="list-style-type: none"> (1) water quality values (2) aquatic habitat values (3) terrestrial habitat values (4) usage of the site by native wetland fauna species or communities. 	<p>A07.1 <u>Vegetation clearing</u> undertaken as a consequence of development does not occur:</p> <ol style="list-style-type: none"> (1) in a <u>wetland in a wetland protection area</u>, or (2) in a buffer for a <u>wetland in a wetland protection area</u>. <p>OR</p> <p>A07.2 Where development is in a <u>wetland protection area</u> in an urban area, development is located and designed to minimise the extent of <u>vegetation clearing</u>, and development is undertaken outside of a wetland and any <u>buffer</u> for the wetland to minimise the extent of <u>vegetation clearing</u> required.</p>
<p>PO8 Development avoids land degradation in a <u>wetland protection area</u>, including:</p> <ol style="list-style-type: none"> (1) mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, wind erosion or scalding 	<p>A08.1 Development is located:</p> <ol style="list-style-type: none"> (1) outside the <u>wetland in a wetland protection area</u> and buffer for the wetland, and (2) on slopes that do not exceed in the levels set out in Table PO 8.1 below. <p>AND</p>

Performance outcomes	Acceptable outcomes																														
<p>(2) loss or modification of chemical, physical or biological properties or functions of soils.</p>	<p>A08.2 <u>Mechanical clearing of vegetation</u> within a wetland protection area is located:</p> <p>(1) outside of a wetland and any buffer for the wetland, and</p> <p>(2) on slopes that do not exceed the levels set out in Table PO8.1 below.</p> <p>Table PO8.1</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">Soil stability class</th> <th style="padding: 5px;">South East Queensland bioregion</th> <th style="padding: 5px;">Coastal bioregions</th> <th style="padding: 5px;">Western bioregions</th> <th style="padding: 5px;">Brigalow Belt & New England Tablelands bioregions</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="padding: 5px;">On a slope less than -</td> </tr> <tr> <td style="padding: 5px;">Very stable</td> <td style="padding: 5px;">15%</td> <td style="padding: 5px;">-</td> <td style="padding: 5px;">-</td> <td style="padding: 5px;">15%</td> </tr> <tr> <td style="padding: 5px;">Stable</td> <td style="padding: 5px;">12%</td> <td style="padding: 5px;">32%</td> <td style="padding: 5px;">10%</td> <td style="padding: 5px;">12%</td> </tr> <tr> <td style="padding: 5px;">Unstable</td> <td style="padding: 5px;">8%</td> <td style="padding: 5px;">10%</td> <td style="padding: 5px;">3%</td> <td style="padding: 5px;">8%</td> </tr> <tr> <td style="padding: 5px;">Very unstable</td> <td style="padding: 5px;">5%</td> <td style="padding: 5px;">1%</td> <td style="padding: 5px;">1%</td> <td style="padding: 5px;">5%</td> </tr> </tbody> </table>	Soil stability class	South East Queensland bioregion	Coastal bioregions	Western bioregions	Brigalow Belt & New England Tablelands bioregions	On a slope less than -					Very stable	15%	-	-	15%	Stable	12%	32%	10%	12%	Unstable	8%	10%	3%	8%	Very unstable	5%	1%	1%	5%
Soil stability class	South East Queensland bioregion	Coastal bioregions	Western bioregions	Brigalow Belt & New England Tablelands bioregions																											
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Unstable	8%	10%	3%	8%																											
Very unstable	5%	1%	1%	5%																											
<p>PO9 Development in a <u>wetland protection area</u> ensures that any existing <u>ecological corridors</u> are enhanced or protected, and have dimensions and characteristics that will:</p> <p>(1) effectively link habitats on or adjacent to the development</p> <p>(2) facilitate the effective movement of terrestrial and aquatic fauna accessing or using a wetland as habitat.</p>	<p>A09.1 Development in a <u>wetland protection area</u> does not occur within an existing <u>ecological corridor</u>.</p> <p>OR each of the following acceptable outcomes apply:</p> <p>A09.2 If an <u>ecological corridor</u> is required to facilitate fauna movement, access or use of a <u>wetland in a wetland protection area</u>, the <u>ecological corridor</u>:</p> <p>(1) has a minimum width of 100 metres, and is provided and maintained in accordance with the <i>Wetland rehabilitation guidelines for the Great Barrier Reef catchment</i>, Department of Environment and Heritage, 2008 or other relevant guidelines, or</p> <p>(2) is of sufficient width to facilitate fauna movement, access or use of a <u>wetland in a wetland protection area</u>, and is provided and maintained in accordance with the <i>Wetland rehabilitation guidelines for the Great Barrier Reef catchment</i>, Department of Environment and Heritage, 2008 or other relevant guidelines.</p> <p>AND</p> <p>A09.4 Unimpeded movement of fauna associated with or likely to use, a <u>wetland in a wetland protection area</u> as part of their normal life cycle is facilitated within and through the <u>wetland protection area</u>, particularly along identified <u>ecological corridors</u>, by:</p> <p>(1) ensuring that development (for example, roads, pedestrian access, in-stream structures) during both construction and operation does not create barriers to the movement of fauna along or within <u>ecological corridors</u></p> <p>(2) providing <u>wildlife movement infrastructure</u> where necessary, and directing fauna to locations where <u>wildlife movement infrastructure</u> has been provided to enable fauna to safely negotiate a development area</p> <p>(3) separating fauna from potential hazards (for example, through fencing).</p>																														

Performance outcomes	Acceptable outcomes
<p>PO10 Development does not result in the introduction of non-native pest plants or animals that pose a risk to the ecological values and processes of a <u>wetland in a wetland protection area</u>.</p>	<p>AO10.1 Existing non-native pest plants or animals are removed, or their threat is controlled by adopting pest management practices that provide for the long-term integrity of a wetland.</p> <p>OR all of the following acceptable outcomes apply:</p> <p>AO10.2 Development does not result in the introduction of any non-native fauna or pest species.</p> <p>AND</p> <p>AO10.3 Exclusion fencing or other pest dispersal control measures are provided in appropriate locations to manage the threat of pest species to a wetland in the <u>wetland protection area</u> of state environmental significance.</p> <p>AND</p> <p>AO10.4 Exclusion fencing does not result in a barrier or hazard to the movement of <u>wetland fauna</u> in the <u>wetland protection area</u>.</p>
<p>PO11 During construction and operation of development in a <u>wetland protection area</u>, <u>wetland fauna</u> are protected from impacts associated with noise, light or <u>visual disturbance</u>.</p>	<p>AO11.1 Development in a <u>wetland protection area</u> does not result in any measurable impact on <u>wetland fauna</u> from noise, light or <u>visual disturbance</u> during construction or operation.</p> <p>AND</p> <p>AO11.2 Development in a <u>wetland protection area</u> minimises noise, light and <u>visual disturbance</u> in accordance with expert advice, to ensure it does not have an adverse effect on the <u>wetland fauna</u> of a <u>wetland in a wetland protection area</u>. <u>Visual disturbance</u> may be minimised by excluding activities in certain areas (for example, line of sight <u>buffers</u>, exclusion fencing), and using visual screens, or similar, during sensitive periods, such as when breeding or roosting.</p>
<p>PO12 During construction and operation of the development in a <u>wetland protection area</u>, ongoing management, maintenance and monitoring is undertaken to ensure adverse effects on hydrology, <u>water</u> quality and ecological processes of a wetland are avoided or minimised.</p>	<p>AO12.1 Construction and operations related to the development in a <u>wetland protection area</u> are carried out in accordance with an operational management plan where appropriate.</p>
<p>PO13 Development in a <u>wetland protection area</u> in an <u>urban area</u> avoids adverse impacts on <u>matters of state environmental significance</u>, or where this is not reasonably possible, impacts are minimised and residual impacts are offset.</p>	<p>AO13.1 <u>Matters of state environmental significance</u> likely to be affected by development in a <u>wetland protection area</u> in an <u>urban area</u> are identified and evaluated, and any adverse effects on the areas are avoided, or where this cannot be reasonably achieved, impacts are minimised and any residual impacts are offset.</p> <p>Editor's note: For offsets see the Department of Environment and Heritage Protection <i>Queensland wetland definition and delineation guidelines</i> (as updated from time to time) available on the Department of Environment and Heritage Protection website.</p>

11.2 Agricultural or animal husbandry activities in a wild river area state code

11.2.1 Purpose

The purpose of this code is to ensure that any new or expanded agricultural activities and animal husbandry activities within a wild river preservation area occur in a way that preserves the wild river's natural values.

11.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 11.2.1
Operational work	Table 11.2.2

Criteria for assessment tables

Table 11.2.1: Material change of use

Performance outcomes	Acceptable outcomes
Riparian and wildlife corridor functions and water quality	
PO1 Riparian areas and wildlife corridors along <u>nominated waterways</u> are preserved, and pollutants from the <u>development</u> (for example, chemical spray drift or contaminated run-off) have a low probability of affecting water quality in adjacent waterways.	AO1.1 The <u>development</u> is set back from a <u>nominated waterway</u> by at least the distance detailed in Schedule 3 of the Department of Environment and Heritage <i>wild river declaration</i> , available from the Department of Environment and Heritage library catalogue.
PO2 Contaminated wastewater, contaminated agricultural runoff and tailwater do not degrade the quality of any receiving waters (both surface and groundwater).	No acceptable outcome is prescribed
Geomorphic processes	
PO3 The <u>development</u> will not result in the increased delivery of sediment to adjacent waterways.	AO3.1 The slope of the land on which the development occurs is less than the value detailed in Schedule 3 Department of Environment and Heritage <i>wild river declaration</i> , available from the Department of Environment and Heritage library catalogue.

Table 11.2.2: Operational work

Performance outcomes	Acceptable outcomes
For agricultural activities	
Riparian and wildlife corridor functions and water quality	
PO1 For development involving an <u>agricultural activity</u> , the escape of <u>moderate risk species</u>	AO1.1 Development for an <u>agricultural activity</u> is set back from a <u>nominated waterway</u> by at least the distance detailed in Schedule 3 Department of

Performance outcomes	Acceptable outcomes
into the river system is prevented.	Environment and Heritage <i>wild river declaration</i> , available from the Department of Environment and Heritage library catalogue.

11.3 Reference documents

Department of Environment and Heritage Protection 2010 [Queensland urban stormwater quality planning guidelines](#)

WetlandCare Australia 2008 [Wetland rehabilitation guidelines for the Great Barrier Reef catchment](#)

Queensland Government [Wild river declarations](#)

Department of Environment and Resource Management 2011 [Queensland wetland buffer guideline](#)

Department of Environment and Resource Management 2011 [Queensland wetland definition and delineation guideline](#)

Environmental Protection Agency 2008 Queensland Government Environmental Offsets Policy available from the Department of Environment and Heritage Protection [library catalogue](#)

11.4 Glossary of terms

Activity—in relation to carrying out an activity in a wild river area, includes the construction of works.

Agricultural activities—means:

- (1) cultivating soil
- (2) planting, irrigating, gathering or harvesting a crop, including a food or fibre crop
- (3) disturbing the soil to establish non-indigenous grasses, legumes or forage cultivars, or
- (4) using the land for horticulture or viticulture.

The term does not include:

- (1) producing agricultural products for the domestic needs of the occupants of the land if the maximum area of the land on which the products are produced is—
 - (a) for fewer than 10 occupants of the land—0.25 hectares
 - (b) for 10 or more, but fewer than 50 occupants of the land—2 hectares
 - (c) for 50 or more, but fewer than 100 occupants of the land—4 hectares
 - (d) for 100 or more occupants of the land—6 hectares, or
- (2) producing agricultural products in a market garden, if the maximum area of land on which the products are produced is not more than 4 hectares, or
- (3) baling or cutting pasture, or
- (4) broadcasting seed to establish an improved pasture, or
- (5) planting, gathering or harvesting a crop of pasture or grain species in a preservation area, if the pasture or grain species is—
 - (a) only for animal feed, and
 - (b) neither a high risk species nor a moderate risk species for the wild river area of which the preservation area is a part, or
 - (c) improving pasture using low impact soil disturbance, if the pasture species is neither a high risk species nor a moderate risk species for the wild river area, or
- (6) forestry activities, or

- (7) activities carried out for land rehabilitation or remediation.

Examples—

- (a) deep ripping, shallow ponding
- (b) blade ploughing in an area that, under the *Vegetation Management Act 1999*, is a category X area or category C area on a property map of assessable vegetation.

Animal husbandry activities—means:

- (1) breeding, keeping, raising or caring for animals, for commercial purposes, that—
 - (a) rely on prepared, packaged or manufactured feed or irrigated or ponded pastures
 - (b) are kept in a pen, yard, enclosure, pond, cage, shed, stables or other confined area or structure, or
- (2) establishing a feedlot, piggery or dairy.

The term does not include—

- (1) grazing, or
- (2) raising livestock for the domestic needs of the occupants of the land, or
- (3) keeping livestock, for example, horses, necessary for working the land, or
- (4) giving livestock supplementary feed, including, for example, by using roller drums, blocks, licks or protein meals—
 - (a) to maintain the livestock's survival, or
 - (b) to improve the livestock's fertility, or
 - (c) for an activity associated with an animal husbandry activities (for example, weaning), or
 - (d) if the livestock is predominantly reliant on native or improved pasture for feed—to prepare the livestock for sale, or
- (5) aquaculture, or
- (6) environmentally relevant activities.

Buffer means the transition zone between a wetland and any surrounding land use that supports the values and processes of the wetland and protects it from external threats.

Clearing for vegetation –

- (1) means remove, cut down, ringbark, push over, poison or destroy in any way, including by burning, flooding or draining but
- (2) does not include destroying standing vegetation by stock, or lopping a tree.

Development approval see the *Sustainable Planning Act 2009*

Editor's note: Development approval means—

- (1) a decision notice or a negotiated decision notice that—
 - (a) approves, wholly or partially, development applied for in a development application (whether or not the approval has conditions attached to it)
 - (b) is in the form of a preliminary approval, a development permit, or an approval combining both a preliminary approval and a development permit in the one approval, or
- (2) a deemed approval, including any conditions applying to it.

Development commitment means any of the following:

- (1) development that arises from, and is necessary to give effect to, a development approval
- (2) development that is located within a state development area under the *State Development and Public Works Organisation Act 1971* and is consistent with the development scheme prepared for the state development area
- (3) development for which the Coordinator-General has evaluated an environmental impact statement under the *State Development and Public Works Organisation Act 1971* if the report recommends the development be approved
- (4) development that is consistent with a designation of land for community infrastructure under the *Sustainable Planning Act 2009*.

Ecological corridor means an area of land (typically vegetated), or water, including areas above and below ground, that is capable of providing fauna habitat in its own right, or has the potential to do so, while allowing fauna to move to and between other habitats.

Environmental offset see the *Sustainable Planning Act 2009*, section 346A.

Editor's note: Environmental offset means works or activities undertaken to counterbalance the impacts of a development on the natural environment.

Environmental values, for wetlands, are those values declared under the *Environmental Protection Regulation 2008*, section 81A to be the environmental values for wetlands.

Hydrological regime means the surface and groundwater flows of water into and out of a wetland, and its associated natural wetting and drying cycle, over an appropriate temporal scale. It includes:

- (1) peak flows
- (2) volume of flows
- (3) duration of flows
- (4) frequency of flows
- (5) seasonality of flows
- (6) water depth (seasonal average)
- (7) wetting and drying cycle.

Matters of state environmental significance means the following natural values and areas protected under state environmental legislation:

- (1) protected area estates (including all classes of protected area except nature refuges and coordinated conservation areas) under the *Nature Conservation Act 1992*
- (2) marine parks (including 'marine national park', 'marine conservation park', 'scientific research', 'preservation' and 'buffer' zones) under the *Marine Parks Act 2004*
- (3) fish habitat areas A and B under the *Fisheries Act 1994*
- (4) threatened species (including plants, animals and animal breeding places) under the *Nature Conservation Act 1992*
- (5) regulated vegetation under the *Vegetation Management Act 2009* including:
 - (i) regional ecosystems identified as 'endangered', 'of concern', 'connectivity areas', 'critically limited', 'threshold', 'wetland'
 - (ii) 'high value regrowth' areas containing 'endangered' or 'of concern' regional ecosystems
 - (iii) regional ecosystems identified as 'watercourse'
- (6) high preservation areas of wild river areas under the *Wild Rivers Act 2005*
- (7) high conservation value wetlands under the *Environment Protection Act 1994* including:
 - (i) wetlands assessed as containing 'high' or 'very high' values via a conservation assessment, or
 - (ii) where a conservation assessment has not yet been completed; wetlands that intersect with areas shown in the 'Directory of Important Wetlands' and high ecological value wetlands and waterways declared under the *Environmental Protection (Water) Policy 2009*
- (8) legally secured offset areas.

Mechanical clearing means clearing vegetation using machinery, which disturbs the soil surface or uproots woody vegetation.

Moderate risk species, for a wild river area, see the *Wild Rivers Act 2005*, schedule.

Editor's note: Moderate risk species for a wild river area means a plant species listed in the wild river declaration for the area as a plant species that has a moderate risk of having an adverse impact on the natural values of the wild river area that the declaration is intended to preserve.

Nominated waterway see the *Wild Rivers Act 2005*, section 6(1).

Editor's note: **Nominated waterway** for a wild river declaration is the part of a drainage channel in the preservation area that:

- (1) is between the upstream and downstream limits, described in the wild river declaration, of the drainage channel
- (2) extends laterally to the outer banks of the drainage channel.

Overriding need—the factors for determining overriding need in the public interest are:

- (1) There is an overriding need if the overall social, economic and environmental benefits of the development outweigh—
 - (a) any detrimental effect upon the natural values of the land and adjacent areas
 - (b) any conflicts it has with the outcome of *State Planning Policy*
 - (c) and the development cannot be located elsewhere so as to avoid conflicting with the *State Planning Policy*.
- (2) The following do not establish an overriding need in the public interest:
 - (a) uses with relatively few location-based requirements
 - (b) interests in or options over land
 - (c) availability or ownership of land.

Urban area see the *Sustainable Planning Act 2009*

Editor's note: **Urban area** means—

- (1) an area identified in a gazette notice by the chief executive under the *Vegetation Management Act 1999* as an **urban area**, or
- (2) if no gazette notice has been published—an area identified as an area intended specifically for urban purposes, including future urban purposes (but not rural residential or future rural residential purposes) on a map in a planning scheme that:
 - (a) identifies the areas using cadastral boundaries and Schedule 26 Sustainable Planning Regulation 2009
 - (b) is used exclusively or primarily to assess development application.

Vegetation includes grass and non-woody herbage.

Visual disturbance means the disturbance of fauna by visual intrusions that could lead to a loss or diminishment of key life cycle functions (for example, nest abandonment, modified feeding patterns), or changes to usage patterns of a wetland by mobile fauna (such as birds). This term include disturbance by people, pets or vehicles.

Water means all or any of the following:

- (1) water in a wetland, watercourse, lake or spring
- (2) underground water
- (3) overland flow water
- (4) water that has been collected in a dam.

Wetland fauna means species that have adapted to living in wetlands and are dependant on them for:

- (1) all of their life cycle, or
- (2) a major part of their life, or
- (3) critical stages of their life cycle, such as breeding and larval development.

Wetland in a wetland protection area means a wetland that has been identified and mapped in the map of wetland protection areas.

Wetland protection area means an area shown as a wetland on the map of wetland protection areas.

Wildlife movement infrastructure includes fauna underpasses under roads and sewage infrastructure, and fauna overpasses over roads.

Abbreviations

PMAV – Property Map of Assessable Vegetation

RPEQ – Registered Professional Engineer Queensland

WPA – Wetland Protection Area

Module 12. Contaminated land

12.1 Contaminated land state code

12.1.1 Purpose

The purpose of the code is to ensure that actually or potentially contaminated land, including land for which an area management advice has been given, is used in a way which is suitable for the site, and does not place another part of the environment, or human health, at risk.

12.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 12.1.1
Reconfiguring a lot	Table 12.1.1

Table 12.1.1: Material change of use and reconfiguring a lot

Performance outcomes	Acceptable outcomes
<p>PO1 <u>Contaminated land</u> is used in a way which is suitable for the site, and does not place another part of the environment, or human health, at risk.</p>	<p>AO1.1 A site investigation report or a validation report has been certified by an <u>auditor</u> under the <i>Environmental Protection Act 1994</i> that the land is suitable for its intended use.</p> <p>OR</p> <p>AO1.2 A draft site management plan has been certified by an <u>auditor</u> under the <i>Environmental Protection Act 1994</i> and states that the land is suitable for the stipulated intended use.</p> <p>Editor's note: An <u>auditor</u> must be approved under the <i>Environmental Protection Act 1994</i> and must comply with the code of conduct for <u>auditors</u>.</p>
<p>PO2 The area for which an area management advice has been given for <u>unexploded ordnance</u> (UXO) is managed so that it does not place another part of the environment, or human health, at risk.</p>	<p>AO2.1 A contractor approved by the Commonwealth Department of Defence has certified that the area for which an area management advice has been given for <u>unexploded ordnance</u> has been remediated or is managed to be suitable for the proposed use.</p> <p>Editor's note: A UXO search can be conducted through the Australian Department of Defence located at http://www.defence.gov.au/uxo</p>

12.2 Reference documents

Department of Environment and Heritage Protection 2012 [Guideline for contaminated land professionals](#)

Department of Environment and Heritage Protection 2013 [Choosing a consultant](#)

Department of Environment and Heritage Protection 2013 [Environmental Management Register](#)

Department of Environment and Heritage Protection 2013 [Contaminated Land Management Register](#)

Australian Government, Department of Defence [UXO Search – Australian Government](#)

12.3 Glossary of terms

Auditor see the *Environmental Protection Act 1994*, section 567

Editor's note: An auditor's certification means a certification by an auditor about specified matters:

- (1) that includes a declaration that meets the requirements of section 574C(2) and (3) of the *Environmental Protection Act 1994*
- (2) a copy of which has been provided to the administering authority.

Contaminated land see the *Environmental Protection Act 1994*

Editor's note: Contaminated land means land contaminated by a hazardous contaminant.

Hazardous contaminant see the *Environmental Protection Act 1994*

Editor's note: Hazardous contaminant means a contaminant, other than an item of explosive ordnance that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of:

- (1) Its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (2) its physical, chemical or infectious characteristics.

Unexploded ordnance—is ammunition such as artillery shells, mortar bombs and grenades that did not explode when used. Unexploded ordnance is considered a contaminant under section 11 of the *Environmental Protection Act 1994*.

12.4 Abbreviations

UXO – unexploded ordnance

Module 13. Major hazard facilities

13.1 Major hazard facilities state code

13.1.1 Purpose

The purpose of this code is to:

- (1) assess off-site physical or chemical risks associated with developments involving a major hazard facility or proposed major hazard facility
- (2) identify clear, concise and robust assessment criteria to assess any off-site risks a major hazard facility or proposed major hazard facility may have on its surrounding environment
- (3) minimise the risk of knock-on effects between a major hazard facility or proposed major hazard facility and any adjacent buildings or structures, hazardous facilities or existing major hazard facilities.

Editor's note: It is a fundamental principle of this code that major hazard facilities and proposed major hazard facilities are designed taking into account of sound engineering principles, relevant Australian Standards and other good industry practice to achieve a risk that is as low as reasonably practicable (ALARP).

In addition to this, it is recommended that a hazard assessment of the proposed design should be conducted to identify any foreseeable hazard scenarios with the potential to create off-site physical or chemical effects. Any such hazard scenarios should be quantified using suitable software modelling.

Proponents of major hazard facilities and proposed major hazard facilities should demonstrate that they have taken all measures necessary to minimise the likelihood of any off-site hazards from materialising, and to limit their physical and chemical effects in the event they did occur. As a guiding principle, major hazard facilities should be designed so that the effects of any hazards are contained within its boundaries. Where a major hazard facility cannot be designed in accordance with this principle, it should be designed so that the risk to health and safety of persons is minimised so far as reasonably practical

13.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 13.1.1

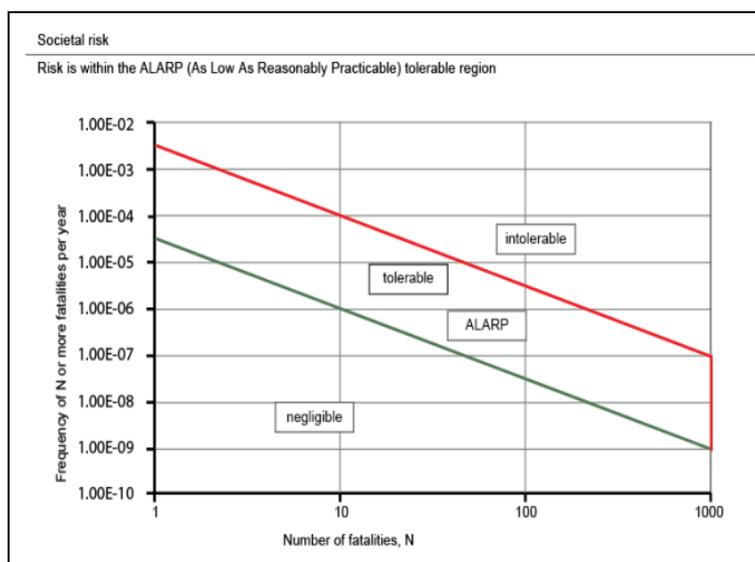
Table 13.1.1: Material change of use

Performance outcomes	Acceptable outcomes
<p>PO1 The <u>major hazard facility</u> or <u>proposed major hazard facility</u> does not create a new risk at any property outside its boundaries that is not commensurate with the sensitivity of the surrounding land uses or zones.</p>	<p>AO1.1 Any off-site impact from a <u>foreseeable hazard scenario</u> does not exceed the following limits at the boundary of any <u>sensitive land use</u> or zone:</p> <ol style="list-style-type: none"> (1) the <u>foreseeable hazard scenario</u> does not exceed a <u>dangerous dose</u> to human health, or (2) if the above criteria cannot be achieved, the risk of any <u>foreseeable hazard scenario</u> does not exceed the following: <ol style="list-style-type: none"> (a) <u>individual fatality risk level</u> $>0.5 \times 10^{-6}$/year (b) societal risk criteria shown in Figure 13.2.1. <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO1.2 Any off-site impact from a <u>foreseeable hazard scenario</u> does not exceed the following limits at the boundary of any <u>commercial or community activity land use</u> or community facility zone:</p> <ol style="list-style-type: none"> (1) the <u>foreseeable hazard scenario</u> does not exceed a <u>dangerous dose</u> to human health, or (2) if the above criteria cannot be achieved, the risk of any <u>foreseeable hazard scenario</u> does not exceed the following: <ol style="list-style-type: none"> (a) <u>individual fatality risk level</u> $>5 \times 10^{-6}/\text{year}$ (b) societal risk criteria shown in Figure 13.2.1. <p>AND</p> <p>AO1.3 Any off-site impact from a <u>foreseeable hazard scenario</u> does not exceed the following limits at the boundary of any <u>industrial land use</u> or industry zone:</p> <ol style="list-style-type: none"> (1) the <u>foreseeable hazard scenario</u> does not exceed a dangerous dose to the built environment, or (2) if the above criteria cannot be achieved, the risk of any <u>foreseeable hazard scenario</u> does not exceed the following: <ol style="list-style-type: none"> (a) <u>individual fatality risk level</u> $>50 \times 10^{-6}/\text{year}$ (b) societal risk criteria shown in Figure 13.2.1.
PO2 The <u>major hazard facility</u> or <u>proposed major hazard facility</u> is located and designed to minimise any adverse consequence of a natural hazard, for example flood, tropical cyclone or bushfire.	No acceptable outcome is prescribed.

13.2 Reference documents

Figure 13.2.1: Societal risk criteria



American Industrial Hygiene Association 2006 [Emergency response planning guidelines](#)

National Transport Commission 2011 [Australian code for the transport of dangerous goods by road and rail](#)

13.3 Glossary of terms

AEGL means Acute Exposure Guidelines Level which identifies threshold exposure limits for the general public and are applicable to emergency exposure periods ranging from 10 minutes to 8 hours as published by the US Environmental Protection Agency.

AEGL2 means the airborne concentration (expressed as ppm or mg/m³) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

Commercial or community activity land use means any of the following:

- (1) retail centre
- (2) shop
- (3) office
- (4) entertainment building
- (5) market
- (6) showroom
- (7) convention centre
- (8) sporting stadium
- (9) tourist attraction
- (10) nightclub
- (11) building for religious worship
- (12) community hall
- (13) theatre
- (14) art gallery.

This term does not include a park, sporting field or open space.

Dangerous dose to human health means:

- (1) for fire or explosion - an effect that equals or exceeds the following:
 - (a) 4.7kW/m² for heat radiation;
 - (b) 7kPa for explosion overpressure;
- (2) for toxic or corrosive gases - an effect that equals or exceeds the following:
 - (a) AEGL 2 (60 minutes);
 - (b) where a corresponding AEGL is not available – ERPG₂;
 - (c) where a corresponding ERPG₂ is not available – a concentration that is likely to produce the following effects:
 - (i) severe distress to almost all people
 - (ii) a substantial proportion of people require medical attention
 - (iii) some people are seriously injured, requiring prolonged treatment
 - (iv) highly susceptible people might be fatally injured.

Dangerous Dose to the built environment means an effect from fire or explosion that equals or exceeds the following:

- (a) 12.6kW/m² for heat radiation;
- (b) 14kPa for explosion overpressure.

ERPG means the *Emergency Response Planning Guidelines* developed by the American Industrial Hygiene Association and includes ERPG-2.

ERPG-2 means the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1hr without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.

Foreseeable hazard scenario means a scenario resulting in an uncontrolled fire, explosion, corrosive vapours or toxic gas release from the development based on the hazardous properties of its hazardous chemicals, their quantities, how they are to be stored or handled and any relevant historical incidents.

Individual fatality risk level means the risk of death to a person at a particular point.

Industrial land use means any of the following as defined in the standard planning scheme provisions:

- (1) warehouse
- (2) low impact industry
- (3) medium impact industry
- (4) high impact industry
- (5) special industry.

Major hazard facility see the Work Health and Safety Regulation 2011, schedule 19.

Editor's note: Major hazard facility means a facility:

- (1) at which Schedule 15 chemicals are present or likely to be present in a quantity that exceeds their threshold quantity; or
- (2) that is determined under Part 9.2 of the Work Health and Safety Regulation 2011 to be a major hazard facility.

Proposed major hazard facility see the Work Health and Safety Regulation 2011, schedule 19.

Editor's note: Proposed major hazard facility means:

- (1) an existing facility or other workplace that is to become a major hazard facility due to the introduction of Schedule 15 chemicals or the addition of further Schedule 15 chemicals; or
- (2) a major hazard facility that is being designed or constructed.

Sensitive land use means any of the following as defined in the standard planning scheme provisions:

- (1) child care centre
- (2) community care centre
- (3) community residence
- (4) dual occupancy
- (5) dwelling house
- (6) educational establishment
- (7) health care service
- (8) hospital
- (9) hostel
- (10) multiple dwelling
- (11) relocatable home park
- (12) residential care facility
- (13) retirement facility
- (14) short term accommodation
- (15) tourist park.

Threshold quantity see the Work Health and Safety Regulation 2011, schedule 19.

Editor's note: Threshold quantity in relation to a Schedule 15 chemical, means:

- (1) the threshold quantity of a specific hazardous chemicals determined under Schedule 15, section 3; or
- (2) the aggregate threshold quantity of two or more hazardous chemicals as determined under Schedule 15, section 4.

Module 14. Maritime safety

14.1 Maritime safety state code

14.1.1 Purpose

The purpose of the code is to ensure development:

- (1) supports the viable operation of navigation aids
- (2) supports the safe operation of vessels in navigable channels
- (3) supports equitable access to navigable waterways.

14.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 14.1.1

Table 14.1.1: Operational work

Performance outcomes	Acceptable outcomes
Lighting	
PO1 Development avoids lighting that has the potential to interfere with <u>navigation aids</u> .	AO1.1 Development must ensure that at all times, all lights on or above the development site do not interfere with safe navigation in surrounding waterways by: <ol style="list-style-type: none"> (1) shielding lights to prevent glare or reflection (2) avoiding flood lighting which may reduce the visibility of <u>navigation aids</u> (3) avoiding flashing or flickering lights which may be confused with navigation aids (4) avoiding coloured lights such as green, blue or red lights, which may be confused with navigation aids. AND AO1.2 Lighting complies with section 3 of <i>AS 4282-1997 Control of the obtrusive effects of outdoor lighting</i> .
Navigation aids	
PO2 Development does not interfere with <u>navigation aids</u> .	AO2.1 Development must not interfere with any <u>navigation aid</u> on the development site. AND AO2.2 Development must not create any temporary or permanent obstruction of <u>navigation aids</u> . AND AO2.3 Development must keep the sight line of any <u>navigation aids</u> which cross the land clear of obstructions. AND

Performance outcomes	Acceptable outcomes
	<p>AO2.4 Development must allow ongoing access to <u>navigation aids</u> for maintenance purposes.</p> <p>AND</p> <p>AO2.5 Development does not result in significant electrical or electro-magnetic emissions which may impede the operation of <u>navigation aids</u>.</p> <p>AND</p> <p>AO2.6 Development must not remove any material within a horizontal distance of 40 metres from any <u>navigation aid</u>, including any ground tackle attached to the aid.</p>
Protection of navigable waterways	
<p>PO3 Development does not encroach on the <u>navigable waterway</u> in a way that impedes the safe passage of vessels is impeded.</p>	<p>AO3.1 Development is to be carried out in a manner that ensures the <u>navigable waterway</u> is open to vessel traffic at all times.</p> <p>Editor's note: Where development limits the depth of a <u>navigable waterway</u> or the size of vessels which can navigate a waterway, it is recommended that a <u>vessel traffic management plan</u> be provided.</p> <p>AND</p> <p>AO3.2 Development:</p> <ol style="list-style-type: none"> (1) does not extend beyond the <u>quayline</u>, or (2) if there is no <u>quayline</u>, any structures that are part of the development do not extend beyond that of approved neighbouring approved structures. <p>AND</p> <p>AO3.3 Development does not limit either the depth of a <u>navigable waterway</u> or the size of vessels which can safely navigate the waterway.</p> <p>Editor's note: Where development closes or impedes vessel traffic in a navigable channel, the applicant must prepare a <u>vessel traffic management plan</u> to be assessed by Maritime Safety Queensland.</p> <p>AND</p> <p>AO3.4 Development involving the demolition of structures in a <u>navigable waterway</u>, including piling, must ensure the entire structure is removed.</p> <p>AND</p> <p>AO3.5 Structures, including all freestanding piles, must be appropriately lit and clearly visible to approaching vessels, and reflective tape must be fitted to all structures to enhance visibility during the hours of darkness.</p> <p>Editor's note: Where necessary, the Regional Harbour Master may require the installation of <u>navigation aids</u> on structures.</p>
<p>PO4 Development does not adversely affect <u>navigable access</u> to neighbouring premises.</p>	<p>AO4.1 Development is to retain a 1.5 metre setback from the <u>water allocation</u> side boundaries.</p> <p>Note: Where development abuts parkland or other land uses that do not require a <u>water allocation</u>, a 1.5 metre setback from the <u>water allocation</u> side boundary is not required.</p> <p>Editor's note: Where development is proposed within 1.5 metres of the side boundaries or crosses the waterfront boundary of adjoining lots, the chief executive may consult with Maritime Safety Queensland regarding the impact on the <u>navigable waterway</u>.</p>

14.2 Ship-sourced pollutants reception facilities in marinas state code

14.2.1 Purpose

The purpose of the code is to ensure all marina development facilitates the installation, maintenance and availability of ship-sourced pollutants reception facilities to prevent marine pollution.

14.2.2 Criteria for assessment

The code applies to all private marina development with six or more berths, located outside of strategic port land, Brisbane core port land under the *Transport Infrastructure Act 1994* and state development areas under the *State Development and Public Works Organisation Act 1971*.

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 14.2.1

Table 14.2.1: Operational work

Performance outcomes	Acceptable outcomes
<p>PO1 <u>Marina</u> development provides facilities for the handling and disposal of ship-sourced <u>pollutants</u>.</p>	<p>AO1.1 Common user facilities for the handling and disposal of ship-sourced <u>pollutants</u>, including oil, garbage and sewage, are provided at a suitable location at the <u>marina</u>. AND AO1.2 Facilities are designed and operated at all times to ensure the risk of spillage from operations is minimised. AND AO1.3 Appropriate equipment to contain and remove spillages must at all times be kept stored in a convenient position near the facility, and be available for immediate use. AND AO1.4 All boats visiting the <u>marina</u> must be able to use the ship-sourced <u>pollutants</u> reception facilities. <i>Editor's note: The Best practice guidelines for waste reception facilities at ports, marinas and boat harbours in Australia and New Zealand Australian and New Zealand Environment and Conservation Council 1997, provides guidance in meeting these acceptable outcomes.</i> AND AO1.5 Where practical, the <u>ship-sourced pollutants reception facility</u> will be connected to the water service provider's sewerage or other waste reception infrastructure.</p>

14.3 Reference documents

Australian and New Zealand Environment and Conservation Council 1997 [Best practice guidelines for waste reception facilities at ports, marinas and boat harbours in Australia and New Zealand](#)

Standards Australia [AS 4282-1997 Control of the obtrusive effects of outdoor lighting](#)

14.4 Glossary of terms

Marina means marina as defined in the *Transport Operations (Marine Pollution) Act 1995*.

Editor's note: Marina means a buoy mooring, jetty or pile mooring or combination of them where, for a fee or reward, a ship is, or may be, anchored, berthed or moored.

Navigation aid see the *Transport Operations (Marine Safety) Act 1994*

Editor's note: A navigation aid is a device designed to be used for navigation or the guidance of mariners, including a device to help in—

- (1) Fixing a ship's position; or
- (2) Deciding a safe course for a ship; or
- (3) Warning a ship of dangers or obstructions.

Navigable access means access that is deep enough and wide enough to afford vessels safe passage to navigable waterways.

Navigable waterway means waters with a sufficient depth and width to allow safe passage by all vessel sizes and types that frequently use the area.

Quayline means a quayline established by a harbour master under the *Transport Operations (Marine Safety) Act 1994* to ensure clear navigable channels and to define seaward limits for waterfront structures.

Vessel traffic management plan includes information on changes and increases to local vessel traffic resulting from the proposed development project and methods of cumulative vessel traffic management for all stages of the proposal lifecycle, to ensure safety of navigation at all times.

Water allocation means the area of a waterway in which a waterfront property owner could construct tidal works (subject to obtaining the required approval).

Pollutant means pollutant as defined in the *Transport Operations (Marine Pollution) Act 1995*

Editor's note: Pollutant means a harmful substance, and includes sewage.

Module 15. Airports

15.1 Airport land use plans

15.1.1 Background

Cairns Airport Land Use Plan 2012

The *Cairns Airport Land Use Plan 2012* ensures that aeronautical and non-aeronautical on-airport development can continue to provide economic opportunities regionally and statewide.

Mackay Airport Land Use Plan 2008

The strategic vision for the Mackay Airport is influenced by the need to be competitive with the best practice of its airport competitors. The aim is to provide best practice services, safe and efficient operations, and appropriate environmentally sustainable development. The land use plan aims to continue to facilitate both growth and improved quality, while protecting buffer land from incompatible development or environmentally insensitive development.

15.1.2 Criteria for assessment

- (1) *Cairns Airport Land Use Plan 2012.*
- (2) *Mackay Airport Land Use Plan 2008.*

Editor's note: The *Cairns Airport Land Use Plan 2012* and *Mackay Airport Land Use Plan 2008* are prepared in accordance with the provisions of the *Airport Assets (Restructuring and Disposal) Act 2008*.

15.2 Strategic airports and aviation facilities state code

15.2.1 Purpose

The purpose of this code is to ensure development and associated activities do not adversely affect the safety, efficiency and operational integrity of strategic airports and aviation facilities by:

- (1) having no adverse impacts on the safety and efficiency of an airport's operational airspace or the functioning of aviation facilities
- (2) avoiding increasing risks to public safety near the ends of airport runways
- (3) being compatible with forecast levels of aircraft noise within the 20 Australian Noise Exposure Forecast (ANEF) contour and greater.

15.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 15.2.1

Table 15.2.1 All development

Performance outcomes	Acceptable outcomes
Operational airspace – physical and transient intrusions	
<p>PO1 Development does not include or create a permanent or temporary physical or transient intrusion within an <u>airport’s operational airspace</u>.</p>	<p>AO1.1 Permanent physical obstructions such as buildings or structures do not infringe on the <u>operational airspace</u> of an <u>airport</u>.</p> <p>AND</p> <p>AO1.2 Temporary physical obstructions, such as cranes or other equipment used during construction, do not infringe on the <u>operational airspace</u> for an <u>airport</u>.</p> <p>AND</p> <p>AO1.3 Landscaping does not include vegetation that at maturity would infringe on the identified <u>operational airspace</u> for an <u>airport</u>.</p> <p>AND</p> <p>AO1.4 Development for temporary or permanent transient activities such as:</p> <ol style="list-style-type: none"> (1) parachuting, or (2) hot air-ballooning, or (3) hang-gliding <p>are not located beneath the <u>operational airspace</u> of an <u>airport</u>.</p> <p>Editor’s note: Mapping that shows the <u>obstacle limitation surface</u> can be found at <i>IDAS triggers mapping: Conditions of use</i> (Department of Transport and Main Roads). Each <u>airport</u> has an approved land use plan that includes mapping of the <u>obstacle limitation surface</u> and the <u>Procedures for Air Navigations Services—Aircraft Operations (PANS-OPS)</u>.</p> <p>Editor’s note: It is highly recommended that CASA and Airservices Australia be consulted prior to lodging any development application that involves these types of activities.</p>
Lighting and reflective surfaces	
<p>PO2 Development does not include or create external lighting or reflective surfaces that could distract or confuse pilots.</p>	<p>AO2.1 Development identified within a light intensity overlay map does not include or create any of the following:</p> <ol style="list-style-type: none"> (1) straight parallel lines of lighting 500 metres to 1000 metres long (2) flare plumes (3) upward shining lights (4) flashing lights (5) laser lights (6) sodium lights (7) reflective surfaces. <p>Editor’s note: Light intensity overlay maps can be found in the local government planning scheme or, where not available in the planning scheme, from the <u>airport</u> operator. Proposals for coloured lights should be referred to CASA for detailed guidance.</p>

Performance outcomes	Acceptable outcomes
	<p>Editor’s note: CASA may also determine that a proposed installation designed to comply with the relevant zone intensities shown in <i>Draft SPP guidelines: Strategic airports and aviation facilities</i> and <i>Practice note 8</i> requires more restrictive controls to avoid conflict in particular circumstances.</p> <p>Editor’s note: <i>Draft SPP guidelines: Strategic airports and aviation facilities</i> and <i>Practice note 8</i> provide more guidance regarding lighting design and managing the risk of distractions to pilots from lighting, lighting fixtures and reflective surfaces.</p>
Emissions	
<p>PO3 Emissions do not significantly increase air turbulence, reduce visibility or compromise the operation of aircraft engines in an <u>airport’s operational airspace</u>.</p>	<p>AO3.1 Development does not emit smoke, dust, ash or steam into the <u>operational airspace</u> for an <u>airport</u>.</p> <p>AND</p> <p>AO3.2 Development:</p> <ol style="list-style-type: none"> (1) does not emit a gaseous plume into <u>operational airspace</u> at a velocity exceeding 4.3 metres per second, or (2) development is designed and constructed to mitigate adverse impacts of emissions on the <u>operational airspace</u> of <u>airports</u>. <p>Editor’s note: Mapping that shows the <u>obstacle limitation surface</u> can be found at <i>IDAS triggers mapping: Conditions of use</i> (Department of Transport and Main Roads). Each <u>airport</u> has an approved land use plan that includes mapping of the <u>obstacle limitation surface</u> and the <u>PANS-OPS</u>.</p> <p>To mitigate adverse impacts on <u>operational airspace</u>, an emission exceeding a gaseous plume of more than 4.3 metres/second will be assessed by CASA in accordance with details determined by <i>Advisory Circular (AC) 139-5(1)</i>. The purpose of <i>AC 139-5(1)</i> is to illustrate a means, but not the only means, of complying with <i>CASA 139.370</i> of Civil Aviation Safety Regulation 1998, or to explain certain regulatory requirements.</p> <p><i>Draft SPP guidelines: Strategic airports and aviation facilities</i> and <i>Practice note 3</i> provide more guidance regarding CASA requirements and assessment processes for plume rise assessment.</p> <p>It is highly recommended that CASA be consulted prior to lodging any development application.</p>
Wildlife hazards	
<p>PO4 Development does not significantly increase the risk of wildlife hazards, particularly to flying vertebrates such as birds and bats, intruding within an <u>airport’s operational airspace</u>.</p>	<p>AO4.1 Development located within 3 kilometres of an <u>airport</u> runway:</p> <ol style="list-style-type: none"> (1) does not include uses identified in column 1 of Table 15.4.2; (2) for uses identified in column 2 of Table 15.4.2, includes measures to reduce the potential to attract birds and bats; (3) includes landscaping and drainage works (including artificial water bodies) which minimise bird and bat-attracting potential. <p>AND</p> <p>AO4.2 Development located between 3 kilometres and 8 kilometres of an <u>airport</u> runway for uses identified in column 1 or column 2 of Table 15.4.2:</p> <ol style="list-style-type: none"> (1) includes measures to reduce the potential to attract birds and bats (2) ensures potential food or waste sources are covered and collected so

Performance outcomes	Acceptable outcomes
	<p>they are not accessible to wildlife.</p> <p>AND</p> <p>AO4.3 Putrescible waste disposal sites (for example landfill and waste transfer facilities) are not located within a 13 kilometre radius of an <u>airport</u>.</p> <p>Editor's note: Development can reduce its potential to attract wildlife by:</p> <ol style="list-style-type: none"> (1) covering potential bird and bat food sources (for example waste or fruit trees) so that they are not accessible by birds or bats; (2) incorporating bird and bat deterrence devices (for example bird scares or netting for fruit and turf production); and (3) adopting and implementing a wildlife hazard management plan in consultation with the <u>airport</u> operator. <p><i>Draft SPP guidelines: Strategic airports and aviation facilities and Practice note 8 provide more guidance regarding managing wildlife strike risk associated with new development.</i></p>
Aircraft noise	
<p>PO5 Development is located and designed to mitigate the impact of aircraft noise to acceptable levels of amenity.</p>	<p>AO5.1 Development within the 20 <u>ANEF</u> contour or greater on the <u>ANEF</u> contour mapping for an <u>airport</u> is:</p> <ol style="list-style-type: none"> (1) compatible with forecast levels of aircraft noise as depicted in Table 2.1 and Table 3.3 of AS2021–2000 Acoustics – aircraft noise intrusion – building siting and construction as approved 7 July 2000; or (2) designed and constructed to attenuate aircraft noise in accordance with <i>AS2021–2000 Acoustics – aircraft noise intrusion – building siting and construction</i> as approved 7 July 2000. <p>Editor's note: Mapping that shows the <u>ANEF</u> contours can be found at <i>IDAS triggers mapping – Conditions of use</i> (Department of Transport and Main Roads). Additionally, each <u>airport</u> has an approved land use plan that includes mapping of the <u>ANEF</u> contours.</p> <p>The development should incorporate noise attenuation measures that meet <i>AS2021–2000 Acoustics – aircraft noise intrusion – building siting and construction</i>, as approved 7 July 2000, and may include building materials such as double-glazing of windows and roof or wall insulation.</p> <p>Where the acceptable outcomes cannot be met, an appropriately qualified acoustic practitioner may need to be engaged in order to demonstrate compliance with this performance outcome.</p>
Public safety areas	
<p>PO6 Development located at the end of runways does not increase the risk to public safety.</p>	<p>AO6.1 Development within the <u>public safety area</u> of an <u>airport</u> does not include the following within the <u>public safety area</u>:</p> <ol style="list-style-type: none"> (1) a significant increase in the number of people living, working or congregating in <u>public safety areas</u>, such as accommodation activities (2) uses that attract large numbers of people (for example recreation activities, shopping centres, industrial or commercial uses involving large numbers of workers or customers)

Performance outcomes	Acceptable outcomes
	<p>(3) community activities, (for example education establishments, hospitals)</p> <p>(4) the manufacture, use or storage of flammable, explosive, hazardous or noxious materials.</p> <p>Editor' note: Mapping that shows the <u>public safety area</u> for strategic <u>airports</u> can be found at <i>IDAS triggers mapping: Conditions of use</i> (Department of Transport and Main Roads). Additionally each <u>airport</u> has an approved land use plan that includes mapping of the <u>public safety area</u>.</p>
Protection of aviation facilities	
<p>PO7 Development does not interfere with the function of <u>aviation facilities</u>.</p>	<p>AO7.1 Development within the <u>public safety area</u> of an <u>airport</u>:</p> <p>(1) does not include or create any of the following:</p> <ul style="list-style-type: none"> (a) permanent or temporary physical obstructions (b) electrical or electro-magnetic interference (c) deflection or interference of signals. <p>OR</p> <p>(2) development is designed and constructed to mitigate adverse impacts on the function of communication, navigation and surveillance facilities.</p> <p>Editor's note: It is highly recommended that CASA and Airservices Australia be consulted prior to lodging any development application within the building restricted area of a communication, navigation and surveillance facility.</p> <p><i>Draft SPP Guidelines: Strategic airports and aviation facilities</i> and <i>Practice note 7</i> provide more guidance regarding building restricted area for <u>aviation facilities</u> and information requirements for local government and Airservices Australia assessment.</p>

15.3 Reference documents

Cairns Airport 2012 [Cairns Airport Land Use Plan](#)

Editor's note: Cairns Airport Land Use Plan document size 28mb.

Civil Aviation Safety Authority 2012 [Advisory Circular AC 139-5\(1\) Plume rise assessments](#)

Department of State Development Infrastructure and Planning 2013 [Draft SPP Guidelines: Strategic airports and aviation facilities](#)

Mackay Airport 2008 [Mackay Airport Land Use Plan](#)

Standards Australia 2000 [AS2021—Acoustics—Aircraft noise intrusion—Building siting and construction](#)

SPP practice notes

15.4 Reference tables

Table 15.4.1 Strategic airports

Table 15.4.1 lists the airports that are strategic airports.

Strategic airport	Local government area	Airport type
Amberley Royal Australian Air Force (RAAF) Base	Ipswich City Council	Defence airfield
Archerfield	Brisbane City Council	Leased federal
Northern Peninsula	Northern Peninsula Area Regional Council	Other
Brisbane	Brisbane City Council	Leased federal
Bundaberg	Bundaberg Regional Council	Other
Cairns	Cairns Regional Council	Other
Coolangatta/Gold Coast	Gold Coast City Council	Leased federal
Emerald	Central Highlands Regional Council	Other
Gladstone	Gladstone Regional Council	Other
Hamilton Island	Whitsunday Regional Council	Other
Hervey Bay	Fraser Coast Regional Council	Other
Horn Island	Torres Shire Council	Other
Longreach	Longreach Shire Council	Other
Mackay	Mackay Regional Council	Other
Mareeba	Tablelands Regional Council	Other
Moranbah	Isaac Regional Council	Other
Mount Isa	Mount Isa City Council	Leased federal
Oakey Army Aviation Centre	Toowoomba Regional Council	Defence airfield
Proserpine	Whitsunday Regional Council	Other
Rockhampton	Rockhampton Regional Council	Other
Roma	Maranoa Regional Council	Other
Scherger RAAF Base	Cook Shire Council	Defence airfield
Sunshine Coast	Sunshine Coast Regional Council	Other
Toowoomba	Toowoomba Regional Council	Other
Townsville Airport/Townsville RAAF Base	Townsville City Council	Joint user
Weipa	Cook Shire Council	Other

Editor's note: It is recommended that applicants consult the airport manager, Civil Aviation Safety Authority (CASA) and Airservices Australia prior to lodging any development application that may encroach into the operational airspace of an airport.

Any necessary Commonwealth approvals should also be considered and addressed prior to lodging a development application at the IDAS pre-lodgement phase, given the potential requirement for two separate approvals from both local government and the Australian Government or Department of Defence.

Leased federal airports—Part 12 of the *Airports Act 1996* (Cth) and the Airports (Protection of Airspace) Regulations 1996 (Cth) (the Regulations) establish a framework for the protection of prescribed airspace at and around airports.

The *Airports Act 1996* (Cth) defines any activity resulting in an intrusion into a Commonwealth airport's protected airspace to be a controlled activity, and requires that controlled activities cannot be carried out without Commonwealth approval.

The Regulations provide for the Commonwealth or the airport operator to approve applications to carry out controlled activities, and to impose conditions on an approval.

Defence airfields—The Defence (Areas Control) Regulation 1989 (DACR) is a Commonwealth regulation under the *Defence Act 1903* (Cth). Development in these areas that exceed an identified height will require a separate approval by the Department of Defence under Regulation 10 of the DACR. The application process and information required by Defence is outlined under Regulation 8 of the DACR.

The Department of Defence also requires that all tall structures (30 metres high within 30 kilometres of the airport and 45 metres high elsewhere) are registered with Royal Australian Air Force—Aeronautical Information Services (RAAF—AIS).

Other (non-Commonwealth airports)—Under the *Civil Aviation Act 1988* (Cth), CASA exercises powers to protect operational airspace. Therefore, operational airspace at all other strategic airports safeguarded by this policy is protected by CASA.

Table 15.4.2 Land uses associated with increases in wildlife strikes and hazards

Column 1: High risk	Column 2: Moderate risk
<p>Agriculture</p> <p>Cropping (turf farm)</p> <p>Cropping (fruit tree farm)</p> <p>Intensive animal industry (piggery)</p> <p>Marine industry (fish processing/packing plant)</p> <p>Conservation</p> <p>Conservation (wetland)</p> <p>Recreation</p> <p>Major sport, recreation and entertainment facility (showground)</p> <p>Commercial</p> <p>Low impact industry (food processing plant)</p> <p>Medium impact industry (food processing plant)</p> <p>High impact industry (food processing plant)</p> <p>Utilities</p> <p>Utility installation (food/organic waste facility)</p> <p>Utility installation (putrescible waste facility)</p>	<p>Agriculture</p> <p>Intensive animal industry (cattle/dairy farm)</p> <p>Intensive animal industry (poultry farm)</p> <p>Conservation</p> <p>Conservation (all other)</p> <p>Recreation</p> <p>Major sport, recreation and entertainment facility (all other)</p> <p>Outdoor sport and recreation</p> <p>Park</p> <p>Utilities</p> <p>Utility installation (non-putrescible waste treatment facility)</p> <p>Utility installation (sewage/wastewater treatment facility)</p>

15.5 Glossary of terms

Airport means a strategic airport listed in table 15.4.1. The term includes all site facilities and any building, installation and equipment used for the control of aircraft operations and any facility provided at such premises for the housing, servicing, maintenance and repair of aircraft, and for the assembly of passengers or goods.

Australian Noise Exposure Forecast (ANEF) means the single number index for predicting for a particular future year (usually 10 or 20 years ahead) the cumulative exposure to aircraft noise likely to be experienced by communities near airports during a specified time period (usually one year). The computation of this index includes: measurements of aircraft noise; estimates and generalisations of aircraft type groups and mix, number of operations, runway utilisation, flight paths, operational procedures; and time of day – day or night.

Editor's notes: This index is useful for rating the compatibility, or otherwise, of land uses with respect to aircraft noise. Equivalent ANEF values around an airport are combined on a chart to form noise contours for a particular future year, usually 10 or 20 years from the date of issue, or sometimes at a major airport for its "ultimate capacity".

An ANEF chart will have the official endorsement of the relevant approval agency and there will be only one current ANEF chart for a given airport at any one time. Australian Standard AS 2021 refers to the ANEF or noise contours in providing guidance on siting and construction of buildings in the vicinity of airports in order to minimise aircraft noise intrusion.

Aviation facilities include navigation, communication or surveillance installations provided to assist the safe and efficient movement of aircraft. Such facilities may be located either on or off airport.

Controlled activity see the *Airports Act 1996*

Editor's note: Controlled activity means the following activities in relation to a prescribed airspace:

- (1) constructing a building, or other structure, that intrudes into the prescribed airspace;
- (2) altering a building or other structure so as to cause the building or structure to intrude into the prescribed airspace;
- (3) any other activity that causes a thing attached to, or in physical contact with, the ground to intrude into the prescribed airspace;
- (4) operating a source of artificial light, where:
 - (a) the intensity of the light emitted exceeds the level ascertained in accordance with the regulations; and
 - (b) the light is capable of blinding or confusing pilots of aircraft operating in the prescribed airspace;
- (5) operating prescribed plant, or a prescribed facility, that reflects sunlight, where:
 - (a) the intensity of the reflected sunlight exceeds the level ascertained in accordance with the regulations; and
 - (b) the reflected sunlight is capable of blinding pilots of aircraft operating in the prescribed airspace;
- (6) an activity that results in air turbulence, where:
 - (a) the level of the turbulence exceeds the level ascertained in accordance with the regulations; and
 - (b) the turbulence is capable of affecting the normal flight of aircraft operating in the prescribed airspace;
- (7) an activity that results in the emission of smoke, dust or other particulate matter, where:
 - (a) the emission exceeds the level ascertained in accordance with the regulations; and
 - (b) the smoke, dust or particulate matter is capable of affecting the ability of aircraft to operate in the prescribed airspace in accordance with Visual Flight Rules;
- (8) an activity that results in the emission of steam or other gas, where:
 - (a) the emission exceeds the level ascertained in accordance with the regulations; and
 - (b) the steam or gas is capable of affecting the ability of aircraft to operate in the prescribed airspace in accordance with Visual Flight Rules.

Obstacle limitation surface (OLS) means the surface that protects flights being operated visually, for example during good weather conditions. The obstacle limitation surface for an airport charts the volume and dimensions of operational airspace that should be kept free of obstacles for aircraft operations being conducted under visual operations.

Operational airspace means the airspace required for airport operations to allow aircraft landing, take-off or manoeuvring operations to be undertaken safely and efficiently. The following types of operational surfaces are considered as part of operational airspace:

- (1) for civilian airports—the areas and vertical dimensions of the OLS;
- (2) for military airfields and joint civil and military airfields—the areas and vertical dimensions as depicted by the height restriction zones pursuant to the Defence (Areas Control) Regulation 1989 under the *Defence Act 1903*.

Procedures for Air Navigation Services-Aircraft Operations (PANS-OPS) means the surface that protects flights being operated non-visually. These are used to determine the volumes and dimensions of airspace required to protect the safety of non-visual operations. Under non-visual operations, pilots fly aircraft relying on instruments for navigation. Airspace protection for non-visual operations cannot allow for any permanent intrusions.

Public safety area means an area immediately beyond the end of a runway and having a relatively high risk of an aircraft incident.

Abbreviations

ANEF – Australian Noise Exposure Forecast

CASA – Civil Aviation Safety Authority

IDAS – Integrated Development Assessment System

DACR – Defence (Areas Control) Regulation 1989

RAAF-AIS – Royal Australian Air Force – Aeronautical Information Services

PAN-OPS – Procedures for Air Navigation Services – Aircraft Operations

SPP – State Planning Policy

Module 16. Particular dams

16.1 Referable dams state code

16.1.1 Purpose

The purpose of the code is to ensure the safety and reliability of dams that have been failure impact assessed under the *Water Supply (Safety and Reliability) Act 2008* and determined to be a referable dam.

16.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 16.1.1

Table 16.1.1: Operational work

Performance outcomes	Acceptable outcomes
<p>PO1 The design of a <u>referable dam</u> meets currently acceptable standards which are appropriate for the site conditions for where the dam is to be constructed so as to minimise impacts on the <u>population at risk</u>.</p>	<p>No acceptable outcome is prescribed.</p> <p>Editor's note: A <u>failure impact assessment</u> must be completed for any dam that, after construction, will be greater than 10 metres in height and have:</p> <ol style="list-style-type: none"> (1) a storage capacity of more than 1500 megalitres, or (2) a storage capacity of more than 750 megalitres and a catchment area that is more than three times maximum surface area at full supply level. <p>Refer to section 343 of the <i>Water Supply (Safety and Reliability) Act 2008</i> for when a dam must be failure impact assessed.</p>

16.2 Reference documents

Department of Environment and Resource Management 2010 [Guidelines for failure impact assessment of water dam](#)

Department of Environment and Resource Management 2009 [DS 5.1 Flood mitigation manual for a dam](#)

Department of Energy and Water Supply 2013 [Guidelines on acceptable flood capacity for water dams](#)

Department of Natural Resources and Mines 2002 [Queensland dam safety management guidelines](#)

16.3 Glossary of terms

Failure impact assessed see the *Water Supply (Safety and Reliability) Act 2008*, section 342.

Editor's note: Failure impact assessment is an assessment certified under the *Water Supply (Safety and Reliability) Act 2008* Chapter 4, Part 1 about the safety of a dam, or a proposed dam, by a Registered Professional Engineer of Queensland (RPEQ) who is not, for the dam, or the proposed dam:

- (1) the owner
- (2) an employee of the owner

- (3) the operator, or
- (4) an employee of the operator

in accordance with the guidelines made by the chief executive [of the *Water Supply (Safety and Reliability) Act 2008*] for failure impact assessment of water dams (the failure impact assessment guidelines).

Failure impact rating see the *Water Supply (Safety and Reliability) Act 2008*, section 346(1)

Editor's note: An existing dam has, or a proposed dam after its construction will have, the following failure impact rating if a failure impact assessment, accepted by the chief executive under section 349 of the *Water Supply (Safety and Reliability) Act 2008*, for the dam, or the proposed dam after its construction, states that the population at risk is—

- (1) for a category 1 failure impact rating—2 or more persons and not more than 100 persons;
- (2) for a category 2 failure impact rating—more than 100 persons.

Population at risk see the *Water Supply (Safety and Reliability) Act 2008*, section 346(2).

Editor's note: Population at risk means the number of persons, calculated under the failure impact assessment guidelines, whose safety will be at risk if the dam, or the proposed dam after its construction, fails.

Referable dam see the *Water Supply (Safety and Reliability) Act 2008*, section 341.

Editor's note: A referable dam is a dam or a proposed dam, after its construction, that will be a referable dam if:

- (1) a failure impact assessment of the dam, or the proposed dam, is required to be carried out under the *Water Supply (Safety and Reliability) Act 2008* Chapter 4, Part 1
- (2) the assessment states the dam has, or the proposed dam after its construction will have, a category 1 or category 2 failure impact rating
- (3) the chief executive has, under section 349 of the *Water Supply (Safety and Reliability) Act 2008*, accepted the assessment.

Module 17. Public and active transport

17.1 Public passenger transport state code

17.1.1 Purpose

The purpose of the code is to ensure that development:

- (1) supports the integration of land use with public passenger services and public passenger transport infrastructure
- (2) does not have a significant adverse impact on existing or future public passenger transport and public passenger transport infrastructure
- (3) promotes and maximises the use of public passenger transport as an attractive, efficient and accessible travel alternative to private transport in a way that reduces the overall economic, environmental and social costs of transport
- (4) increases opportunities for people to access public passenger transport, including access by active transport
- (5) provides, as far as practicable, public passenger transport infrastructure to support public passenger services.

Note: This code applies to all purposes listed under column 1 of Schedule 9 to the Sustainable Planning Regulation 2009 except the following items: 9, 18, 19, 20, 21, 22, 23, 24, 29 and 30.

Note: LGA (Local government area) population 1 and LGA population 2 are as defined in Schedule 26 to the Sustainable Planning Regulation 2009.

17.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 17.1.1
Reconfiguring a lot	Table 17.1.1

Table 17.1.1: Material change of use or reconfiguring a lot

Performance outcomes	Acceptable outcomes
Efficiency and connectivity	
<p>PO1 Development is designed and constructed to accommodate safe, convenient and efficient access for buses, bus stops and <u>public passenger transport facilities</u>.</p>	<p>AO1.1 Roads are designed to accommodate buses.</p> <p>Note: Road design is in accordance with Part 2 (Development standards) of the Schedule to the Transport Planning and Coordination Regulation 2005 and subsection Disability standards for accessible public transport 2002 – section 31(1) of the <i>Disability Discrimination Act 1992 (Cth)</i>.</p> <p>AND</p> <p>AO1.2 Any new roads support bus routes that balance accessibility with the efficient running of bus services and minimise service diversions.</p> <p>AND</p> <p>AO1.3 Bus stops are provided in accordance with the <i>TransLink public</i></p>

Performance outcomes	Acceptable outcomes
	<p><i>transport infrastructure manual</i>, Translink Transit Authority, 2012.</p> <p>AND</p> <p>AO1.4 For educational establishments, bus facilities accommodating private coaches or buses are designed in accordance with the technical guideline <i>Planning for safe transport infrastructure at schools</i>, Department of Transport and Main Roads, 2011.</p>
<p>PO2 Development does not adversely impact on the operation of existing or proposed <u>public passenger services</u> setdown, layover and boarding arrangements.</p>	<p>AO2.1 New roads, including verges and kerb alignments, are designed and managed to perform the designated traffic and parking functions without compromising or creating conflicts with setdown, layover or boarding arrangements for buses.</p> <p>AND</p> <p>AO2.2 Provision is made for any bus stops to continue to function (including maintenance of associated pedestrian access) and for efficient travel times to be maintained during the construction phase of development.</p>
<p>PO3 Development does not adversely impact on the efficiency of bus routes.</p>	<p>AO3.1 Any proposed new road layouts, including new intersections or vehicular accesses including driveways, are designed to avoid operational conflicts with existing bus routes.</p> <p>AND</p> <p>AO3.2 Any impact from the development on the efficiency of a bus route is identified, and the application demonstrates how this impact will be minimised and mitigated against.</p> <p>Editor's note: A traffic impact assessment report will assist in addressing this acceptable outcome.</p> <p>AND</p> <p>A3.3 Any upgrading or provision of new <u>public passenger transport facilities</u> for <u>public passenger services</u> is in accordance with the <i>TransLink public transport infrastructure manual</i>, Translink Transit Authority, 2012.</p>
<p>Integration</p>	
<p>PO4 Development supports <u>public passenger service</u> integration and intermodal transfer.</p>	<p>AO4.1 Any proposed new road network supports modal interchange by integrating with existing and future <u>public passenger transport</u>.</p> <p>AND</p> <p>AO4.2 Development provides direct linkages and ease of interchange for passengers between existing and future <u>public passenger transport</u>, including other transport modes.</p>
<p>PO5 Development ensures buses can efficiently navigate through the proposed site.</p>	<p>AO5.1 Development minimises conflict between buses, pedestrians, cars and other <u>public passenger transport</u> to minimise travel time and delay for public transport vehicles.</p> <p>AND</p> <p>AO5.2 The design of pedestrian access ensures ease of movement and circulation patterns for <u>public passenger transport</u>.</p> <p>AND</p> <p>AO5.3 Car parks for educational establishments are designed in accordance with the technical guideline <i>Planning for safe transport infrastructure at schools</i>, Department of Transport and Main Roads, 2011.</p>

Performance outcomes	Acceptable outcomes
<p>PO6 The development design allows for the progressive staging or extension of <u>public passenger transport</u> to the development.</p>	<p>AO6.1 The proposed development layout and any new road network have the capability to be serviced by <u>public passenger transport</u> across all stages.</p> <p>Editor’s note: A traffic impact assessment report will assist in addressing this acceptable outcome.</p>
Public transport accessibility for users	
<p>PO7 Development provides safe and convenient access to existing and future <u>public passenger transport</u> and <u>public passenger transport facilities</u>.</p>	<p>AO7.1 Development locates <u>public passenger transport</u> to provide safe and convenient access for pedestrians, while avoiding conflicts with traffic.</p> <p>AND</p> <p>AO7.2 The development demonstrates that safe and convenient access to existing and future <u>public passenger transport facilities</u> is accommodated.</p> <p>Editor’s note: An access and mobility plan can demonstrate how this acceptable outcome is addressed.</p> <p>AND</p> <p>AO7.3 Educational establishments provide for safe and convenient pedestrian access to <u>public passenger services</u> in accordance with the technical guideline <i>Planning for safe transport infrastructure at schools</i>, Department of Transport and Main Roads, 2011.</p>
<p>PO8 Development provides for the on-site setdown of private coaches, buses and minibuses to meet the anticipated capacity of the proposed development.</p>	<p>AO8.1 Any requirement for on-site setdown areas for private buses, coaches and minibuses is identified, and the development has the capacity to accommodate manoeuvring and setdown facilities for the largest design vehicle to be accommodated on site.</p> <p>Editor’s note: A traffic impact assessment can demonstrate how this acceptable outcome will be achieved.</p>
Taxi facilities	
<p>PO9 A dedicated taxi facility is provided to meet the anticipated need of the proposed development, and is located to provide convenient, safe and equitable access for all patrons seeking to use this transport service.</p>	<p>AO9.1 Any requirement for a dedicated taxi facility is identified, and it is demonstrated how this requirement is addressed.</p> <p>Editor’s note: A traffic impact assessment report will assist in addressing this acceptable outcome.</p> <p>AND</p> <p>AO9.2 Taxi facilities are designed in accordance with:</p> <ol style="list-style-type: none"> (1) <i>AS2890.5-1993 Parking facilities – on-street parking</i> and <i>AS1428.1-2009 Design for access and mobility – general requirements for access – new building work</i> (2) <i>AS1742.11-1999 Parking controls – manual of uniform traffic control devices</i> (3) <i>AS/NZS 2890.6-2009 Parking facilities – off-street parking for people with disabilities</i> (4) subsection 31(1) Disability standards for accessible public transport 2002 of the <i>Disability Discrimination Act 1992</i> (5) <i>Guide to traffic management – Part 11: Parking</i>. <p>AND</p> <p>AO9.3 A dedicated taxi facility is located within 100 metres of a main entrance to a building.</p>

17.2 Active transport state code

17.2.1 Purpose

The purpose of the code is to ensure that development:

- (6) supports active transport
- (7) provides infrastructure to support active transport, as far as practicable.

This will be achieved through:

- (1) providing safe, convenient and legible access to active transport infrastructure
- (2) development that supports the provision of active transport infrastructure
- (3) ensuring development avoids adversely impacting on the safety or operation of existing active transport infrastructure.

17.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 17.2.1
Reconfiguring a lot	Table 17.2.1

Table 17.2.1: Material change of use or reconfiguring a lot

Performance outcomes	Acceptable outcomes
Pedestrian and cycle access	
PO1 Development supports <u>active transport</u> by providing a safe, convenient and legible pedestrian and cycle network.	<p>AO1.1 The development demonstrates support of <u>active transport</u> by providing a safe, convenient and legible pedestrian and cycle network. Editor's note: An access and mobility plan can demonstrate how this acceptable outcome is addressed.</p> <p>AND</p> <p>AO1.2 Pathways are planned and designed to be fit-for-purpose, including provision for shared cycle and pedestrian pathways, in accordance with the <i>Guide to road design – Part 6A: Pedestrian and cyclist paths</i> and <i>AS1742.9–2000 Bicycle facilities – manual of uniform traffic control devices</i>.</p>
Existing and future active transport infrastructure and corridors	
PO2 Development does not impact on the safe and efficient operation of existing <u>active transport infrastructure</u> where co-located with an existing <u>state transport corridor</u> .	<p>AO2.1 Development minimises driveway crossovers.</p> <p>AND</p> <p>AO2.2 Development does not impede sightlines for road users, including pedestrians and cyclists.</p> <p>AND</p> <p>AO2.3 Development does not reduce levels of passive surveillance or reduce ambient light levels in public places used for <u>active transport</u>.</p>

Performance outcomes	Acceptable outcomes
PO3 Development makes provision for future <u>active transport infrastructure</u> where it is a <u>planned upgrade</u> and co-located with an existing <u>state transport corridor</u> .	AO3.1 Land required for future <u>active transport infrastructure</u> is kept clear of any permanent buildings, structures and improvements above or below ground.
Critical cycle corridors on the principal cycle network	
PO4 Development protects or makes provision for <u>critical cycle corridors</u> and provides the part of a <u>planned upgrade critical cycle corridor</u> that adjoins or is contained within the development.	AO4.1 Land required for a <u>critical cycle corridor</u> is kept clear of any permanent buildings, structures and improvements above or below ground. Editor's note: The detailed site layout plan prepared in support of the development application should identify the provision of the <u>critical cycle corridors</u> , including any required land dedications. AND AO4.2 The portion of a <u>critical cycle corridor</u> that runs along the frontage of the development or through the development site, as identified in the detailed design drawings for the <u>critical cycle corridor</u> , is constructed as part of the development.

17.3 Land use and transport integration state code

17.3.1 Purpose

The purpose of this code is to ensure that development within 400 metres of an existing or future public passenger transport facility supports land use and transport integration by:

- (1) providing safe and direct access to public passenger transport facilities
- (2) ensuring development is integrated with public passenger transport facilities and provides for the safety of passengers using these facilities
- (3) providing a road hierarchy that supports effective bus routes connectivity with public passenger transport facilities.

17.3.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 17.6.1
Reconfiguring a lot	Table 17.3.1

Table 17.3.1: Material change of use or reconfiguring a lot

Performance outcomes	Acceptable outcomes
Connectivity	
PO1 Development supports a road hierarchy which facilitates efficient, safe and accessible bus services connection to existing and future	AO1.1 Roads catering for buses are major collector, arterial or sub-arterial roads or their equivalent. AND

Performance outcomes	Acceptable outcomes
<u>public passenger transport facilities.</u>	<p>AO1.2 Roads catering for buses provide convenient connections to existing and future <u>public passenger transport facilities.</u></p> <p>AND</p> <p>AO1.3 The road network supports bus routes that balance accessibility with the efficient running of bus services.</p> <p>AND</p> <p>AO1.4 Roads catering for buses are designed and constructed in accordance with the code for IDAS—Part 2 development standards under the Transport Planning and Coordination Regulation 2005.</p>
PO2 Development enhances connectivity between existing and future <u>public passenger transport facilities</u> and other transport modes.	<p>AO2.1 The road network supports modal interchange by integrating with existing and future <u>public passenger transport facilities.</u></p> <p>AND</p> <p>AO2.2 Development provides direct linkages for passengers between existing and future <u>public passenger transport facilities</u> and other transport modes.</p> <p>AND</p> <p>AO2.3 Development provides way-finding information for existing <u>public transport facilities</u> and interconnecting transport modes.</p>
Pedestrian and cycle access	
PO3 Development optimises the walkable catchment to existing and future <u>public passenger transport facilities.</u>	<p>AO3.1 Development connects to an existing or planned pedestrian and cycle network that links to existing and future <u>public passenger transport facilities.</u></p> <p>AND</p> <p>AO3.2 Development provides convenient through-site connections for pedestrians and cyclists to existing and future <u>public passenger transport facilities.</u></p> <p>AND</p> <p>AO3.3 Development provides logical extensions or missing links to existing and planned pedestrian and cycle routes connecting to existing and future <u>public passenger transport facilities.</u></p>
Interfaces with public passenger transport facilities	
PO4 Development provides direct and safe access to and use of <u>public passenger transport facilities.</u>	<p>AO4.1 Through-site pathway connections to <u>public passenger transport facilities</u> are provided in accordance with <i>Austroroads guide to road design—Part 6A: Pedestrian and cyclist paths.</i></p> <p>AND</p> <p>AO4.2 Pathway connections are available at all times.</p> <p>AND</p> <p>AO4.3 Direct and legible pedestrian and cycle paths and crossings provide connections to existing and future <u>public passenger transport facilities.</u></p> <p>AND</p> <p>AO4.4 Development incorporates landscaping, boundary treatments and lighting that enhances the safety of pedestrians and cyclists accessing <u>public passenger transport facilities</u> and provide for casual surveillance.</p> <p>AND</p> <p>AO4.5 Commercial and retail shopping development provides active frontages oriented towards <u>public passenger transport facilities.</u></p>

Performance outcomes	Acceptable outcomes
	AND AO4.6 Residential development addresses street frontages and provides casual surveillance of <u>public passenger transport facilities</u> .

17.4 Reference documents

Australian Government 2002 [Subsection 31\(1\) – Disability standards for accessible public transport 2002 of the Disability Discrimination Act 1992](#)

Austrroads [Guide to road design – Part 6A: Pedestrian and cyclist paths](#)

Austrroads 2008 [Guide to Traffic Management Part 11: Parking](#)

Department of Housing and Public Works 2012 [Queensland Development Code](#)

Queensland Government 1994 [Part 2 Code for IDAS – Development standards of the Transport Planning and Coordination Regulation 2005](#)

Department of Transport and Main Roads 2012 [Queensland transport roads and investment program \(QTRIP\)](#)

Standards Australia 2009 [AS1428.1-2009 Design for access and mobility - General requirements for access – New building work](#)

Standards Australia 2000 [AS1742.9–2000 Bicycle facilities— Manual of uniform traffic control devices](#)

Standards Australia 1999 [AS1742.11–1999 Parking controls—Manual of uniform traffic control devices](#)

Standards Australia 1993 [AS2890.3–1993 Parking facilities—Bicycle parking facilities](#)

Standards Australia 1993 [AS2890.5–1993 Parking facilities—On-street parking](#)

Standards Australia 2009 [AS/NZS 2890.6:2009 Parking facilities—Off-street parking for people with disabilities](#)

Department of Transport and Main Roads 2011 [Planning for safe transport infrastructure at schools](#)

Translink Transit Authority 2012 [TransLink public transport infrastructure manual](#)

17.5 Glossary of terms

Active transport see the *Transport Planning and Coordination Act 1994*, section 8A(3).

Editor's note: Active transport means physical activity undertaken as a means of transport from one place to another, including the following:

- (1) cycling
- (2) walking
- (3) cycling or walking to a place to access public passenger transport, or from a place after public passenger transport has been used.

Active transport infrastructure see the *Transport Planning and Coordination Act 1994*, section 8A(3).

Editor's note: Active transport infrastructure means infrastructure used in connection with active transport, including, for example:

- (1) a path or walkway for pedestrians
- (2) a path, lane or other infrastructure for cyclists
- (3) a device or facility designed and constructed for parking bicycles or
- (4) an end-of-trip facility.

Critical Cycle Corridors are key sections of the Principal Cycle Network which carry the largest volumes of cyclists. They are limited to the highest order connections.

Planned upgrade means any planned and funded — extension, upgrade, augmentation or duplication of state transport infrastructure or transport networks described in the current published version of the *Queensland Transport and Roads Investment Program* (QTRIP) prepared by the Department of Transport and Main Roads.

Public passenger service see the *Transport Operations (Passenger Transport) Act 1994*, schedule 3.

Editor's note: Public passenger service means a service for the carriage of passengers if:

- (1) the service is provided for fare or other consideration
- (2) the service is provided in the course of a trade or business (but not if it is provided by an employer solely for employees) or
- (3) the service is a courtesy or community transport service
- (4) and includes a driver service and a service for the administration of taxi services, but does not include a service excluded from the *Transport Operations (Passenger Transport) Act 1994* by a Regulation.

Public passenger transport see the *Transport Planning and Coordination Act 1994*, section 3.

Editor's note: Public passenger transport means the carriage of passengers by a public passenger service using a public passenger vehicle.

Public passenger transport corridor—means land:

- (1) on which any of the following transport infrastructure is situated, if the infrastructure is used for providing public passenger services—
 - (a) busway transport infrastructure
 - (b) light rail transport infrastructure
 - (c) rail transport infrastructure
- (2) on which other services are provided for the maintenance or operation of transport infrastructure mentioned in (1).

Public passenger transport facility—means any of the following:

- (1) a busway station
- (2) a railway passenger station
- (3) a light rail station
- (4) a passenger transport interchange facility identified in a guideline made under the *Transport Planning and Coordination Act 1994*, section 8E.

Public passenger transport infrastructure see the *Transport Planning and Coordination Act 1994*, section 3

Editor's note: Public passenger transport infrastructure means infrastructure for, or associated with, the provision of public passenger transport, including, but not limited to:

- (1) a transit terminal for public passengers services (for example, an airport terminal, a coach terminal, a cruise ship terminal)
- (2) a ferry terminal, jetty, pontoon or landing for ferry services
- (3) a bus stop, bus shelter, bus station or bus lay-by
- (4) a busway station
- (5) a light rail station
- (6) a taxi rank, limousine rank or limousine standing area
- (7) a railway station
- (8) vehicle parking and set-down facilities

- (9) pedestrian and bicycle paths and bicycle facilities
- (10) a road on which a public passenger transport service operates.

Railway means land on which railway transport infrastructure or other rail infrastructure is situated.

State-controlled road see the *Transport Infrastructure Act 1994*

Editor's note: State-controlled road means a road or land, or part of a road or land, declared under the *Transport Infrastructure Act 1994* to be a state-controlled road.

State transport corridor means any of the following terms (defined under the *Transport Infrastructure Act 1994*, *Transport Planning and Coordination Act 1994* and Sustainable Planning Regulation 2009):

- (1) a state-controlled road
- (2) a railway
- (3) a public passenger transport corridor
- (4) a state-controlled transport tunnel
- (5) an active transport corridor.

State transport infrastructure means any of the following:

- (1) a state-controlled road
- (2) busway transport infrastructure under the *Transport Infrastructure Act 1994*
- (3) light rail transport infrastructure under the *Transport Infrastructure Act 1994*
- (4) rail transport infrastructure under the *Transport Infrastructure Act 1994*
- (5) other rail infrastructure under the *Transport Infrastructure Act*
- (6) active transport infrastructure under the *Transport Planning and Coordination Act 1994*.

Module 18. State transport infrastructure protection

18.1 Buildings and structures state code

18.1.1 Purpose

The purpose of the code is to ensure that buildings and structures located in, over or adjacent to existing or future state transport corridors or state transport infrastructure avoid or mitigate any adverse impacts on the operation and structural integrity of state transport infrastructure.

18.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 18.1.1

Table 18.1.1: All development

Performance outcomes	Acceptable outcomes
PO1 Buildings, services, structures and utilities do not adversely impact on the safety or operation of existing and future <u>state transport infrastructure</u> and <u>state transport corridors</u> .	No acceptable outcome is prescribed.
PO2 Buildings and structures in or over an existing or future <u>state transport corridor</u> (including a buffer associated with a state-controlled transport): (1) are able to sustain impacts to their structural integrity in the event of an impact from <u>state transport infrastructure</u> (2) have no adverse impact on the structural integrity of the <u>state transport infrastructure</u> , including tunnels, retaining walls and viaducts or bridges during construction or thereafter (3) minimise the impacts of: (a) fire (b) explosion (c) chemical spill (d) liquid fuel spill (e) gas leak (f) any other emission or hazard generated from a dangerous goods incident.	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
<p>PO3 Parts of the development visible from <u>state transport infrastructure</u> on existing and future <u>state transport corridors</u> minimise potential to distract drivers and cause a safety hazard.</p>	<p>AO3.1 Advertising devices proposed on a <u>state-controlled road</u> are designed to meet the standards outlined in the <i>Roadside advertising guide</i>, Department of Transport and Main Roads, 2009.</p> <p>AO3.2 Landscaping on a <u>state-controlled road</u> is undertaken in accordance with the <i>Road landscape manual</i>, Department of Transport and Main roads, 2013.</p> <p>Editor’s note: Works on a <u>state-controlled road</u> reserve require the applicant to obtain an ancillary works and encroachments permit under section 50 of the <i>Transport Infrastructure Act 1994</i>.</p> <p>OR</p> <p>AO3.3 Development adjacent to a <u>railway</u> is in accordance with the <i>Guide for development in a railway environment</i>, Department of Infrastructure and Planning, 2009.</p> <p>Note: The <i>Guide for development in a railway environment</i> is part of the <i>Transit oriented development: Guide for practitioners</i>, Department of Infrastructure and Planning, 2009.</p>

18.2 Filling and excavation state code

18.2.1 Purpose

The purpose of the code is to ensure filling and excavation associated with development does not create any adverse impacts on the condition or operation of an existing or future state transport corridor.

This will be achieved through:

- (1) protection of the infrastructure asset from damage, reduction in asset life or increased maintenance costs (whole of life cycle costs)
- (2) avoiding interference with and encroachment from with services and public utilities in state transport corridors
- (3) maintaining a safe operation of state transport corridors
- (4) avoiding adverse impacts from overland flows and stormwater events on the capacity of drainage systems
- (5) preventing land instability and contamination impacts.

18.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 18.2.1
Operational work	Table 18.2.1
Reconfiguring a lot	Table 18.2.1

Table 18.2.1: Material change of use, reconfiguring a lot and operational work

Performance outcomes	Acceptable outcomes
Filling and excavation	
<p>PO1 Filling and excavation does not adversely impact on or compromise the safety or operation of an existing or future <u>state-controlled road</u>.</p>	<p>AO1.1 Filling and excavation is undertaken to ensure no undermining, subsidence, groundwater seepage, drainage or stormwater impacts occur within an existing or <u>future state-controlled road</u>.</p> <p>Editor's note: To meet the above acceptable outcome, a filling and excavation report assessing the proposed filling and excavation should be prepared to demonstrate compliance with this code and the requirements of the <i>Road planning and design manual</i>, Department of Transport and Main Roads, 2010.</p>
<p>PO2 Filling and excavation on an existing or future <u>state-controlled road</u> is minimised through alternative design solutions, where practical and is cost-effective.</p> <p>Editor's note: Where this applies to a future <u>state-controlled road</u> corridor, planning for the corridor must be sufficiently progressed for impacts from filling and excavation to be considered as part of the development application.</p>	<p>No acceptable outcome is prescribed.</p> <p>Editor's note: If a development involves filling and excavation within a <u>state-controlled road</u>, an approval issued by the Department of Transport and Main Roads under section 33 of the <i>Transport Infrastructure Act 1994</i> may be required.</p>
Services and public utilities	
<p>PO3 Filling and excavation does not interfere with or impact on existing or future planned services or public utilities on a <u>state-controlled road</u>.</p>	<p>AO3.1 Any alternative service and public utility alignments must satisfy the standards and design specifications of the service or public utility provider, and with any costs of relocation being borne by the developer.</p> <p>Editor's note: An approval issued by the Department of Transport and Main Roads under section 33 of the <i>Transport Infrastructure Act 1994</i> may be required.</p>
Retaining or reinforced soil structures	
<p>PO4 Retaining or reinforced soil structures required to contain fill and excavation:</p> <ol style="list-style-type: none"> (1) do not encroach on a <u>state-controlled road</u> (2) are capable of being constructed and maintained without adversely impacting a <u>state-controlled road</u> (3) are constructed of durable materials which maximise the life of the structure. 	<p>AO4.1 Retaining or reinforced soil structures (including footings, rock anchors and soil nails) are sited outside an existing or future <u>state-controlled road</u>.</p> <p>AO4.2 Retaining or reinforced soil structures in excess of an overall height of 1 metre are to be designed and certified by a structural Registered Professional Engineer of Queensland (RPEQ).</p> <p>AO4.3 Retaining or reinforced soil structures that are set back less than 750 millimetres from a common boundary alignment with a <u>state-controlled road</u> are designed to achieve a low maintenance external finish, and are certified by a structural RPEQ.</p> <p>AO4.4 Retaining or reinforced soil structures in excess of an overall height of 2 metres incorporate design treatments (such as terracing or planting) to reduce the overall height impact.</p> <p>AO4.5 Construction materials of all retaining or reinforced soil structures have a design life exceeding 40 years, and comply with the specifications approved by a RPEQ.</p>
Stormwater flows and infrastructure on state-controlled roads	
<p>PO5 Upstream or downstream fill and excavation does not alter or create a worsening effect on the operation and</p>	<p>AO5.1 Filling and excavation is undertaken with provision of suitable surface and sub-surface drainage to avoid adverse impacts from overland flow and stormwater events that exist prior to development up to a 1 per cent <u>annual exceedance</u></p>

Performance outcomes	Acceptable outcomes
capacity of existing drainage infrastructure, including culverts, floodway systems or overland flow paths within the <u>state-controlled road</u> network.	<p>probability on a <u>state-controlled road</u>.</p> <p>AO5.2 Surface and sub-surface drainage carried out as part of the filling and excavation works prevents water seepage; creating barriers to overland flow and ponding; or a concentration of run-off on <u>state-controlled roads</u>.</p>
Compaction, stabilisation and erosion management	
PO6 Filling and excavation does not cause siltation and erosion run-off from the property, or wind blown dust nuisance onto a <u>state-controlled road</u> .	<p>AO6.1 Compaction of fill is carried out in accordance with the requirements of <i>AS 1289.0 2000 – Methods of testing soils for engineering purposes</i>.</p> <p>AO6.2 Erosion and siltation control measures are managed and completed in accordance with <i>Guide to assess development applications for stormwater drainage</i>.</p>
Transporting spoil on state-controlled roads	
PO7 Where the quantity of fill or excavated spoil material being imported or exported for a development exceeds 10 000 tonnes, and haulage will be on a <u>state-controlled road</u> , any impact on the infrastructure is identified and mitigation measures implemented.	<p>AO7.1 The impacts on the <u>state-controlled road</u> network are identified, and measures are implemented to avoid, reduce or compensate the effects on the asset life of the <u>state-controlled road</u>.</p> <p>Editor's note: It is recommended that a pavement impact assessment report be prepared to address this acceptable outcome. Guidance for preparing a pavement impact assessment is set out in <i>Guidelines for assessment of road impacts of development (GARID)</i>, Department of Transport and Main Roads, 2006.</p>
Driveway crossover to a state-controlled road	
PO8 Filling and excavation associated with providing a driveway crossover to a <u>state-controlled road</u> does not compromise the operation or capacity of existing drainage infrastructure.	<p>AO8.1 Filling and excavation associated with the design of driveway crossovers complies with the relevant Institute of Public Works Engineering Australia Queensland (IPWEAQ) standards.</p> <p>Editor's note: The construction of any crossover requires the applicant to obtain a permit to work in the <u>state-controlled road</u> corridor under section 33 of the <i>Transport Infrastructure Act 1994</i> and a section 62 approval under the <i>Transport Infrastructure Act 1994</i> for the siting of the access and associated works.</p>
Contamination	
PO9 Fill material does not cause contamination from the development site onto a <u>state-controlled road</u> .	AO9.1 Fill material is free of contaminants including acid sulphate content, and achieves compliance with <i>AS 1289.0 – Methods of testing soils for engineering purposes</i> and <i>AS 4133.0-2005 – Methods of testing rocks for engineering purposes</i> .
Vibration through compaction	
PO10 Vibration generated through fill compaction does not result in damage or nuisance to a <u>state-controlled road</u> .	AO10.1 Fill compaction does not result in any vibrations beyond the site boundary, and is in accordance with <i>AS 2436-2010 – Guide to noise and vibration control on construction, demolition and maintenance sites</i> .
All state transport corridors except state-controlled roads	
PO11 Excavation, retaining works and other ground disturbance works associated with a development, including retaining walls and reinforced soil structures, must not impact on the safety of <u>state transport infrastructure</u> on existing and future <u>state transport corridors</u> .	No acceptable outcome is prescribed.

18.3 Stormwater and drainage impacts on state transport infrastructure state code

18.3.1 Purpose

The purpose of the code is to ensure that stormwater events, including peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, sedimentation and scour effects associated with development are minimised and managed to avoid creating any adverse impacts on a state transport corridor.

This will be achieved through:

- (1) ensuring the protection of the infrastructure assets from damage, any reduction in asset life or increased maintenance costs (whole of life cycle costs)
- (2) a no worsening of impacts or actionable nuisance on state transport infrastructure and state transport corridors
- (3) maintaining the efficiency of the stormwater infrastructure in state transport corridors to manage water quality and natural overland flows
- (4) ensuring stormwater discharge only occurs at a lawful point of discharge.

18.3.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 18.3.1

Table 18.3.1: All development

Performance outcomes	Acceptable outcomes
Stormwater and drainage management	
<p>PO1 Stormwater management for the development must ensure there is no worsening of, and no actionable nuisance in relation to peak discharges, flood levels, frequency or duration of flooding, flow velocities, water quality, sedimentation and scour effects on an existing or future state transport corridor for all flood and stormwater events that exist prior to development, and up to a 1 per cent <u>annual exceedance probability</u>.</p>	<p>AO1.1 The development does not result in stormwater or drainage impacts or actionable nuisance within an existing or future <u>state transport corridor</u>. Editor's note: It is recommended that basic stormwater information is to be prepared to demonstrate compliance with Ao1.1.</p> <p>OR</p> <p>AO1.2 A stormwater management statement certified by an RPEQ demonstrates that the development will achieve a no worsening impact or actionable nuisance on an existing or future <u>state transport corridor</u>.</p> <p>OR</p> <p>AO1.3 A stormwater management plan certified by an RPEQ demonstrates that the development will achieve a no worsening impact or actionable nuisance on a <u>state-controlled road</u>.</p> <p>OR</p> <p>AO1.4 For development on premises within 25 metres of a <u>railway</u>, a stormwater management plan certified by an RPEQ demonstrates that:</p> <ol style="list-style-type: none"> (1) the development will achieve a no worsening impact or actionable nuisance on

Performance outcomes	Acceptable outcomes
	<p>the <u>railway</u></p> <p>(2) the development does not cause stormwater, roofwater, ponding, floodwater or any other drainage to be directed to, increased or concentrated on the <u>railway</u></p> <p>(3) the development does not impede any drainage, stormwater or floodwater flows from the <u>railway</u></p> <p>(4) stormwater or floodwater flows have been designed to:</p> <p>(a) maintain the structural integrity of the <u>rail transport infrastructure</u></p> <p>(b) avoid scour or deposition</p> <p>(5) additional railway formation drainage necessitated by the development is located within the premises where the development is carried out</p> <p>(6) retaining structures for excavations abutting the railway corridor provide for drainage.</p>
Lawful point of discharge	
<p>PO2 Stormwater run-off and drainage are directed to a <u>lawful point of discharge</u> to avoid adverse impacts on a future or existing <u>state transport corridor</u>.</p>	<p>AO2.1 Where stormwater run-off is discharged to a <u>state transport corridor</u>, the discharge is to a <u>lawful point of discharge</u> in accordance with section 1.4.3 of the <i>Road drainage manual</i>, Department of Transport and Main Roads, 2013 and section 3.02 of <i>Queensland urban drainage manual</i>, Department of Natural Resources and Mines, 2013.</p> <p>AND</p> <p>AO2.2 Development does not cause a net increase in or concentration of stormwater or floodwater flows discharging onto the <u>state transport corridor</u> during construction or thereafter.</p> <p>AND</p> <p>AO2.3 Development does not create any additional points of discharge or changes to the condition of an existing <u>lawful point of discharge</u> to the <u>state transport corridor</u>.</p> <p>AND</p> <p>AO2.4 For development on premises within 25 metres of a <u>railway</u>, approval from the relevant railway manager for the <u>railway</u>, as defined in the <i>Transport Infrastructure Act 1994, schedule 6</i> has been gained to verify the <u>lawful point of discharge</u> for stormwater onto the railway.</p>
Sediment and erosion management	
<p>PO3 Run-off from <u>upstream development</u> is managed to ensure that sedimentation and erosion do not cause siltation of stormwater infrastructure in the <u>state transport corridor</u>.</p>	<p>AO3.1 Development with a moderate to high risk of erosion incorporates erosion and sediment control measures.</p> <p>Editor's note: Where a development has a moderate to high risk of erosion as per section 13.5 of the <i>Road drainage manual</i>, Department of Transport and Main Roads, 2013, an erosion and sedimentation control plan should be provided to support either a stormwater management statement or stormwater management plan.</p>

18.4 Reference documents

Department of Natural Resources and Mines 2013 [Queensland urban drainage manual](#)

Department of Infrastructure and Planning 2010 [Transit oriented development: Guide for practitioners](#)(includes the Guide for development in a railways corridor)

Institute of [Public Works Engineering Australia \(Queensland\) \(IPWEAQ\) standards](#)

Standards Australia 2000 [AS1289.0-2000 – Methods of testing soils for engineering purposes](#)

Standards Australia 2010 [AS2436-2010 – Guide to noise and vibration control on construction, demolition and maintenance sites](#)

Standards Australia 2005 [AS4133.0-2005 – Methods of testing rocks for engineering purposes](#)

Department of Main Roads 2006 [Guidelines for assessment of road impacts of development \(GARID\)](#)

Department of Transport and Main Roads 2010 [Road drainage manual](#)

Department of Transport and Main Roads 2010 [Road planning and design manual](#)

Department of Transport and Main Roads 2009 [Roadside advertising guide](#)

Department of Transport and Main Roads 2013 [Road landscape manual](#)

Department of Transport and Main Roads 2013 [Guide to assess development applications for stormwater drainage](#)

18.5 Glossary of terms

Annual exceedance probability (AEP) means the probability of exceedance of a given discharge within a period of one year.

Editor's note: AEP is generally expressed as 1 in Y [years]. The terminology of AEP is generally used where the data and procedures are based on annual series analysis.

Future state-controlled road means a road or land that the chief executive administering the *Transport Infrastructure Act 1994* has, by written notice given to a local government and published in the gazette, indicated is intended to become a state-controlled road under that Act (section 42).

Lawful point of discharge means a point of discharge designated and controlled by DTMR, or at which discharge rights have been granted by registered easement in favour of DTMR.

Rail transport infrastructure see the *Transport Infrastructure Act 1994*, schedule 6.

Editor's note: Rail transport infrastructure means facilities necessary for operating a railway, including –

- (1) railway track and works built for the railway, including for example –
 - cuttings
 - drainage works
 - excavations
 - land fill
 - track support earthworks, and
- (2) any of the following things that are associated with the railway's operation–
 - bridges
 - communication systems
 - machinery and other equipment
 - marshalling yards
 - noticeboards, notice markers and signs

- overhead electrical power supply systems
 - over-track structures
 - platforms
 - power and communication cables
 - service roads
 - signalling facilities and equipment
 - stations
 - survey stations, pegs and marks
 - train operation control facilities
 - tunnels
 - under-track structures
- (3) vehicle parking and set down facilities for intending passengers for a railway that are controlled or owned by a railway manager or the chief executive, and
- (4) pedestrian facilities, including footpath paving, for the railway that are controlled or owned by a railway manager or the chief executive, but does not include other rail infrastructure.

Railway means land on which railway transport infrastructure or other rail infrastructure is situated.

State-controlled road see the *Transport Infrastructure Act 1994*

Editor's note: State-controlled road means a road or land, or part of a road or land, declared under the *Transport Infrastructure Act 1994* to be a state-controlled road.

State transport corridor means any of the following terms (defined under the *Transport Infrastructure Act 1994*, *Transport Planning and Coordination Act 1994* and Sustainable Planning Regulation 2009):

- (1) a state-controlled road
- (2) a railway
- (3) a public passenger transport corridor
- (4) a state-controlled transport tunnel
- (5) an active transport corridor.

State transport infrastructure means any of the following terms (defined under the *Transport Infrastructure Act 1994*, the *Transport Planning and Coordination Act 1994* and the Sustainable Planning Regulation 2009)–

- (1) state-controlled road
- (2) busway transport infrastructure
- (3) light rail transport infrastructure
- (4) rail transport infrastructure
- (5) other rail infrastructure
- (6) active transport infrastructure

Upstream development means development located in the opposite direction of water flow from a state transport corridor, nearer to the source of the flow.

18.6 Abbreviations

AEP	Annual exceedance probability
DTMR	Department of Transport and Main Roads
PIA	Pavement impact assessment
RPEQ	Registered Professional Engineer of Queensland

Module 19. State transport network functionality

19.1 Access to state-controlled roads state code

19.1.1 Purpose

The purpose of this code is to ensure that development does not adversely impact the safety, function and operational efficiency of the state-controlled road network or a future state-controlled road.

Editor’s note: The *Transport Infrastructure Act 1994* (TIA) provides the chief executive administering the TIA with the ability to control access to the state-controlled road network. The main provisions are:

- (1) section 62 of the TIA — the chief executive administering the TIA can permit, amend, prohibit, or apply conditions to ‘permitted road access’ locations between a state-controlled road and adjacent land
- (2) section 67(1) of the TIA — if a decision is made under section 62(1) of the TIA, the chief executive must provide written notice of the decision to the owner of the land, the occupier of the land and any persons who may have applied for the decision
- (3) section 33 of the TIA — states no person is to carry out road works on, or interfere with, a state-controlled road or its operation without written approval from the chief executive administering the TIA
- (4) section 33 of the TIA — an approval for road access works under this section may only be given if there is a permitted road access location under a decision in force under section 62(1) of the TIA in relation to the road access works
- (5) section 33 of the TIA — a decision made under this section is provided in a written notice by the chief executive administering the TIA
- (6) section 54 of the TIA — allows the chief executive administering the TIA to declare a road or section of a road as a limited access road. The declaration is supported by policy on how access to individual properties will be handled.

Editor’s note: A ‘permitted road access’ location means a permitted road access location under a decision in force under section 62(1) of the TIA. All applicants proposing a road access location for the state-controlled road (including limited access roads) will be required to obtain a decision under section 62 of the TIA that is consistent with the development application as submitted.

Editor’s note: An approval under section 33 of the TIA will still need to be obtained by the applicant from the chief executive administering the TIA prior to commencement of any works within the state-controlled road.

Editor’s note: The chief executive administering the TIA will continue to issue decisions under sections 62 and 33 of the TIA. Each DTMR regional office has maps showing sections of the state-controlled road that are declared as limited access roads.

Editor’s note: Decisions under section 62 of the TIA can be issued independently of a development application if the access is not associated with development that requires a development approval, or if the applicant wishes to seek the access and development approvals separately.

19.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 19.1.1

Table 19.1.1: All development

Performance outcomes	Acceptable outcomes
Location of the direct vehicular access to the state-controlled road	
PO1 Any road access location to the <u>state-controlled road</u> from adjacent land does not compromise the safety and efficiency of the	AO1.1 Any road access location to the <u>state-controlled road</u> from adjacent land complies with a decision under section 62 of the TIA. OR all of the following acceptable outcomes apply

Performance outcomes	Acceptable outcomes
<p><u>state-controlled road</u>.</p>	<p>AO1.2 Any <u>road access location</u> for the development is provided from a lower order road where an alternative to the <u>state-controlled road</u> exists.</p> <p>AND</p> <p>AO1.3 A traffic impact assessment certified by a Registered Professional Engineer of Queensland (RPEQ) demonstrates that the development will maintain the safety and efficiency of the <u>state-controlled road</u>.</p> <p>AND</p> <p>AO1.4 Any <u>road access location</u> meets the sight distance requirements outlined in Chapter 9 – Sight distance of the <i>Road planning and design manual – interim guide to road planning and design practice</i>, Department of Transport and Main Roads, 2010.</p> <p>AND</p> <p>AO1.5 Any <u>road access location</u> is not located adjacent to an existing or planned functional area of an intersection in accordance with Chapter 13 – Intersections at grade of the <i>Road planning and design manual – interim guide to road planning and design practice</i>, Department of Transport and Main roads, 2010.</p> <p>AND</p> <p>AO1.6 Any <u>road access location</u> does not conflict with any adjacent lands' access location and operation.</p> <p>AND</p> <p>AO1.7 A new or upgraded <u>road access location</u> is designed to accommodate 10 year traffic growth past completion of the final stage of development.</p> <p>Editor's note: In order to demonstrate that the acceptable outcomes can be achieved, it is recommended that a traffic impact assessment certified by an RPEQ be provided. It should be prepared in accordance with the <i>Guidelines for assessment of road impacts of development (GARID)</i>, Department of Main Roads, 2006, and the requirements of part 13 of the <i>Road planning and design manual – interim guide to road planning and design practice</i>, Department of Transport and Main Roads, 2010, SIDRA analysis or traffic modelling.</p>
Direct access to a limited access road	
<p>PO2 Access to a <u>limited access road</u> is in accordance with the approved limited access policy.</p> <p>Editor's note: <u>Limited access roads</u> are declared by the chief executive under section 54 of the TIA. Details can be accessed by contacting the appropriate DTMR regional office.</p>	<p>No acceptable outcome is prescribed.</p>
Number of road accesses to the state-controlled road	
<p>PO3 The number of <u>road access locations</u> to the <u>state-controlled road</u> maintains the safety and efficiency of the <u>state-controlled road</u>.</p>	<p>AO3.1 Development does not increase the number of <u>road access locations</u> to the <u>state-controlled road</u>.</p>
<p>PO4 The number of <u>road access locations</u> to the <u>state-controlled road</u> is rationalised to maintain the safety and efficiency of the <u>state-</u></p>	<p>AO4.1 Where multiple <u>road access locations</u> to the premises exist, access is rationalised to reduce the overall number of <u>road access locations</u> to the <u>state-controlled road</u>.</p>

Performance outcomes	Acceptable outcomes
<p><u>controlled road</u>.</p>	<p>AND</p> <p>AO4.2 Shared or combined <u>road access locations</u> are provided for adjoining land having similar uses to rationalise the overall number of direct accesses to the <u>state-controlled road</u>.</p> <p>Editor's note: Shared <u>road access locations</u> may require easements to provide a legal point of access for adjacent lots. If this is required, then the applicant must register reciprocal access easements on the titles of both of the lots for the shared access.</p>
<p>Design vehicle and traffic volume</p>	
<p>PO5 Any <u>road access location</u> maintains the safety and efficiency of the <u>state-controlled road</u>.</p>	<p>AO5.1 Any <u>road access location</u> meets the minimum standards associated with the design vehicle.</p> <p>Editor's note: The design vehicle to be considered is the same as the design vehicle set under the relevant local government planning scheme.</p> <p>AND</p> <p>AO5.2 Any <u>road access location</u> is designed to accommodate the forecast volume of vehicle movements in the peak periods of operation or conducting the proposed use of the premises.</p> <p>AND</p> <p>AO5.3 Any <u>road access location</u> is designed to accommodate 10 year traffic growth past completion of the final stage of development.</p> <p>AND</p> <p>AO5.4 Any <u>road access location</u>, for an urban activity, is designed in accordance with the relevant local government standards or <i>IPWEAQ R-050, R-051 and R-053 drawings</i>.</p> <p>AND</p> <p>AO5.5 Any <u>road access location</u> for all other uses other than urban activities is designed in accordance with the <i>Road planning and design manual – interim guide to road planning design and practice</i>, Department of Transport and Main Roads, 2010, in particular Chapter 13.</p>
<p>Internal and external manoeuvring associated with direct vehicular access to the state-controlled road</p>	
<p>PO6 Turning movements for vehicles entering and exiting the premises via the <u>road access location</u> maintain the safety and efficiency of the <u>state-controlled road</u>.</p>	<p>AO6.1 The <u>road access location</u> provides for left in and left out turning movements only.</p> <p>AND</p> <p>AO6.2 Internal manoeuvring areas on the premises are designed so the design vehicle can enter and leave the premises in a forward gear.</p> <p>Editor's note: The design vehicle to be considered is the same as the design vehicle set under the relevant local government planning scheme.</p>
<p>PO7 On-site circulation is suitably designed to accommodate the design vehicle associated with the proposed land use, in order to ensure that there is no impact on the safety and efficiency of the <u>state-controlled road</u>.</p>	<p>AO7.1 Provision of on-site vehicular manoeuvring space is provided to ensure the flow of traffic on the <u>state-controlled road</u> is not compromised by an overflow of traffic queuing to access the site in accordance with <i>AS2890 – Parking facilities</i>.</p> <p>AND</p> <p>AO7.2 Mitigation measures are provided to ensure that the flow of traffic on the <u>state-controlled road</u> is not disturbed by traffic queuing to access the</p>

Performance outcomes	Acceptable outcomes
	site.
Temporary vehicular road access location to the state-controlled road	
<p>PO8 Any proposed temporary <u>road access locations</u> ensure that the safety and efficiency of the <u>state-controlled road</u> is maintained.</p> <p>Editor's note: Temporary <u>road access locations</u> may be conditioned to ensure the temporary nature of the access. Where appropriate, use of the temporary access may be restricted to the approved type and number of vehicles, and the times the temporary access is able to be used will also be limited.</p>	No acceptable outcome is prescribed.
Vehicular access to local roads within 100 metres of an intersection with a state-controlled road	
<p>PO9 Development having road access to a <u>local road</u> within 100 metres of an intersection with a <u>state-controlled road</u> maintains the safety and efficiency of the <u>state-controlled road</u>.</p>	<p>A09.1 The <u>road access location</u> to the <u>local road</u> is located as far as possible from where the road intersects with the <u>state-controlled road</u> and does not compromise the existing operation or any future upgrades to the intersection or <u>state-controlled road</u>.</p> <p>AND</p> <p>A09.2 The <u>road access location</u> to the <u>local road</u> network is in accordance with chapter 13 – Intersections at grade of the <i>Road planning and design manual – interim guide to road planning design and practice</i>, Department of Transport and Main Roads, 2010, and is based on the volume of traffic and speed design of both the <u>local road</u> and intersecting <u>state-controlled road</u> for a period of 10 years past completion of the final stage of development.</p> <p>AND</p> <p>A09.3 Vehicular access to the <u>local road</u> and internal vehicle circulation is designed to remove or minimise the potential for vehicles entering the site to queue in the intersection with the <u>state-controlled road</u> or along the <u>state-controlled road</u> itself.</p>

19.2 Development adjacent to railway, busway and light rail state code

19.2.1 Purpose

The purpose of this code is to ensure that any development within 25 metres of an existing or future railway, busway or light rail does not adversely affect the safety and operational integrity of the railway, busway or light rail.

19.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 19.2.1

Table 19.2.1: All development

Performance outcomes	Acceptable outcomes
PO1 New or upgraded accesses ensures the safety and efficiency of the <u>state transport infrastructure</u> .	No acceptable outcome is prescribed.
PO2 The operational integrity of <u>railways</u> , <u>busways</u> and <u>light rail</u> is not adversely affected by adjacent development.	<p>AO2.1 Existing authorised access points to <u>railways</u>, <u>busways</u> and <u>light rail</u> for maintenance and emergency works are maintained.</p> <p>Editor's note: For railways, access points are maintained in accordance with the Queensland Rail <i>Systems Capability Technical Requirement MCE-SR-005 Design of buildings over or near railways</i>.</p> <p>AND</p> <p>AO2.2 The design and layout of the adjacent development discourages unauthorised access to the <u>railway</u>, <u>busway</u> or <u>light rail</u> corridors.</p> <p>Editor's note: Design of development adjacent to railways is in accordance with <i>MCE-SR-005 Design of buildings over or near railways</i>.</p>
PO3 Development provides safe and clearly defined access for servicing and utilities on site.	No acceptable outcome is prescribed.
PO4 Pedestrian overpasses, publicly accessible stairwells and common access balconies are designed to prevent projectiles being thrown onto existing and <u>future state transport corridors</u> and <u>state transport infrastructure</u> .	<p>AO4.1 Development includes throw protection measures.</p> <p>Editor's note: Design of development adjacent to a railway is in accordance with Queensland Rail <i>Systems Capability Technical Requirements MCE-SR-005 Design of buildings over or near railways</i> and <i>MCE-SR-008 Protection screens</i>.</p>

19.3 Transport infrastructure and network design state code

19.3.1 Purpose

The purpose of this code is to ensure that:

- (1) Development does not compromise the safe and efficient management and operations of state transport infrastructure and transport networks
- (2) Development does not compromise planned upgrades of state transport infrastructure or the development of future state transport corridors
- (3) Upgrade works proposed to mitigate adverse impacts of development on the operation and management of state transport infrastructure are:
 - (a) consistent with applicable design standards
 - (b) consistent with planned upgrades of the state transport infrastructure
- (4) Development does not compromise the safe and efficient operation of the overall road hierarchy by imposing traffic loadings on state-controlled roads which could be accommodated on the local road network.

19.3.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development	Table 19.3.1

Table 19.3.1: All development

Performance outcomes	Acceptable outcomes
All state transport infrastructure – except state-controlled roads	
<p>PO1 Development does not compromise the safe and efficient management or operation of <u>state transport infrastructure</u> or <u>transport networks</u>.</p>	<p>AO1.1 Any impact from the development on the safe and efficient management and operation of the <u>state transport corridor</u> or <u>transport network</u> is identified and mitigated.</p> <p>Editor’s note: A traffic impact assessment will assist in addressing this acceptable outcome. A traffic impact assessment should identify any upgrade works required to mitigate impacts on the safe and efficient management and operation of the <u>state transport corridor</u>.</p>
<p>PO2 Development does not compromise planned upgrades to <u>state transport infrastructure</u> or the development of future <u>state transport infrastructure</u> in <u>future state transport corridors</u>.</p>	<p>AO2.1 Written advice has been provided by DTMR that there are no <u>planned upgrades</u> of <u>state transport infrastructure</u> or <u>future state transport corridors</u> which will be compromised by the development.</p> <p>OR both of the following acceptable outcomes apply</p> <p>AO2.2 The layout and design of the proposed development accommodates <u>planned upgrades</u> to adjacent <u>state transport infrastructure</u> in the <u>state transport corridor</u>.</p> <p>AND</p> <p>AO2.3 The layout and design of the development does not compromise the delivery of <u>state transport infrastructure</u> in <u>future state transport corridors</u>.</p> <p>Editor’s note: A traffic impact assessment will assist in addressing this acceptable outcome.</p>
State-controlled roads	
<p>PO3 Development does not compromise the safe and efficient management or operation of <u>state-controlled roads</u>.</p> <p>Editor’s note: A traffic impact assessment will assist in addressing this performance outcome.</p>	<p>AO3.1 Any impact from the development on the safe and efficient management and operation of the <u>state-controlled road</u> is identified and mitigated.</p> <p>Editor’s note: A traffic impact assessment will assist in addressing this acceptable outcome.</p>
<p>PO4 Development does not compromise <u>planned upgrades</u> of the <u>state-controlled road network</u> or delivery of <u>future state-controlled roads</u>.</p>	<p>AO4.1 Written advice has been provided by DTMR that there are no <u>planned upgrades</u> of <u>state-controlled roads</u> or <u>future state-controlled roads</u> which will be compromised by the development.</p> <p>OR</p> <p>AO4.2 Any impact from the development does not compromise <u>planned upgrades</u> of the <u>state-controlled road network</u> or the delivery of <u>future state-controlled roads</u>.</p> <p>Editor’s note: A traffic impact assessment will assist in addressing this acceptable</p>

Performance outcomes	Acceptable outcomes
	outcome.
PO5 Upgrade works on or associated with the <u>state-controlled road</u> network are undertaken in accordance with applicable standards.	<p>AO5.1 Upgrade works for the development are consistent with the requirements of the <i>Road planning and design manual – interim guide to road planning and design practice</i>, Department of Transport and Main Roads, 2010.</p> <p>AND</p> <p>AO5.2 The design and staging of upgrade works on or associated with the <u>state-controlled road</u> network are consistent with <u>planned upgrades</u>.</p>
PO6 Development does not impose traffic loadings on the <u>state-controlled road</u> network which could be accommodated on the <u>local road</u> network.	<p>AO6.1 New roads proposed as part of the development are consistent with the <u>road hierarchy</u> adopted by the relevant local government, and new lower order roads do not connect directly to a <u>state-controlled road</u>.</p> <p>AND</p> <p>AO6.2 Where the opportunity is available, development provides for <u>road access locations</u> to lower order roads.</p> <p>AND</p> <p>AO6.3 Where possible, the layout and design of the development encourages traffic generated by the development to use lower order roads.</p>

19.4 Reference documents

Department of Infrastructure and Planning 2010 [Guide for development in a railway environment](#)

Queensland Rail [Systems Capability Technical Requirements MCE-SR-005 Design of buildings over or near railways](#)

Queensland Rail 2010 [MCE-SR-008 Protection screens](#)

Standards Australia [AS2890 – Parking facilities](#)

Department of Main Roads 2006 [Guidelines for assessment of road impacts of development](#) (GARID)

Department of Transport and Main Roads 2010 [Road planning and design manual – interim guide to road planning and design practice](#)

Department of Transport and Main Roads 2012 [Queensland Transport and Roads Investment Program 2012–13 to 2015–16 \(QTRIP\)](#)

19.5 Glossary of terms

Busway see the *Transport Infrastructure Act 1994*, schedule 6.

Editor's note: Busway means:

- (1) a route especially designed and constructed for, and dedicated to, the priority movement of buses for passenger transport purposes
- (2) places for the taking on and letting off of bus passengers using the route.

Future railway land see the *Transport Infrastructure Act 1994*

Editor's note: Future railway land means land that the chief executive administering the *Transport Infrastructure Act 1994* has, by written notice given to a local government and published in the gazette, indicated is intended to be used for a railway under that Act (section 242).

Future state-controlled road see the *Transport Infrastructure Act 1994*, section 42

Editor's note: Future state-controlled road means a road or land that the chief executive administering the *Transport Infrastructure Act 1994* has, by written notice given to a local government and published in the gazette, indicated is intended to become a state-controlled road under that Act (section 42).

Future state transport corridor means any of the following:

- (1) a future state-controlled road
- (2) future railway land
- (3) a future public passenger transport corridor
- (4) a future state-controlled transport tunnel
- (5) a future active transport corridor.

Light rail see the *Transport Infrastructure Act 1994*, schedule 6.

Editor's note: Light rail means:

- (1) a route wholly or partly dedicated to the priority movement of light rail vehicles for passenger transport purposes, whether or not the route was designed and constructed for those purposes as well as other purposes
- (2) places for the taking on and letting off of light rail vehicle passengers using the route.

Limited access road see the *Transport Infrastructure Act 1994*

Editor's note: Limited access road means a state-controlled road, or part of a state-controlled road, declared to be a limited access road under the *Transport Infrastructure Act 1994*, section 54.

Limited access policy see the *Transport Infrastructure Act 1994*

Editor's note: Limited access policy means a policy for a limited access road prepared under the *Transport Infrastructure Act 1994*, section 54(4)

Local road means a road controlled by a local government authority.

Lower order road means a road of a lower order in the road hierarchy than another road within the road hierarchy.

Planned upgrade means any planned and approved: extension, upgrade, augmentation or duplication of state transport infrastructure or transport networks where:

- (1) described or reflected in a state or local government document which has been adopted, committed and published, or
- (2) affected land holders have been consulted.

Public passenger transport see the *Transport Planning and Coordination Act 1994*, section 3.

Editor's note: Public passenger transport means the carriage of passengers by a public passenger servicing using a public passenger vehicle.

Railway means land on which railway transport infrastructure or other rail infrastructure is situated. Railway does not include a light rail or light rail transport infrastructure.

Road access location means a location on a property boundary between land and a road for the entry or exit of traffic.

Road hierarchy is a system of ranking in which roads are ranked in terms of their function, type and capacity to support different types of vehicles and volumes of traffic.

State-controlled road see the *Transport Infrastructure Act 1994*

Editor's note: State-controlled road means a road or land, or part of a road or land, declared under section 24 of the *Transport Infrastructure Act 1994* to be a state-controlled road.

State-controlled transport tunnel see the Sustainable Planning Regulation 2009, schedule 24.

Editor's note: State-controlled transport tunnel means:

- (1) a tunnel that forms part of a—
 - (a) state-controlled road, or
 - (b) railway, or
 - (c) public passenger transport corridor, or
- (2) a railway tunnel easement.

State transport corridor means any of the following terms (defined under the *Transport Infrastructure Act 1994*, *Transport Planning and Coordination Act 1994* and Sustainable Planning Regulation 2009):

a state-controlled road

- (1) a railway
- (2) a public passenger transport corridor
- (3) a state-controlled transport tunnel
- (4) an active transport corridor.

State transport infrastructure means any of the following terms (defined under the *Transport Infrastructure Act 1994*, the *Transport Planning and Coordination Act 1994* and the Sustainable Planning Regulation 2009)–

- (1) state-controlled road
- (2) busway transport infrastructure
- (3) light rail transport infrastructure
- (4) rail transport infrastructure
- (5) other rail infrastructure
- (6) active transport infrastructure

Transport network means the series of connected routes, corridors and transport facilities required to move goods and passengers and includes roads, railways, public transport routes (for example, bus routes), active transport routes (for example, cycleways), freight routes and local, state and privately owned infrastructure.

19.6 Abbreviations

DTMR	Department of Transport and Main Roads
GARID	<i>Guidelines for Assessment of Road Impacts of Development</i>
IDAS	Integrated Development Assessment System
IPWEAQ	Institute of Public Works Engineering Australia (Queensland)
RPEQ	Registered Professional Engineer of Queensland
TIA	<i>Transport Infrastructure Act 1994</i>