Schedule 5 Planning Scheme Policies

SC5.1 Planning Scheme Policy Index

The Planning Scheme Policies applicable to the Planning Scheme area are:
(1) Flood Planning Scheme Policy
(2) Landscaping Planning Scheme Policy

SC5.2 Flood Planning Scheme Policy

SC5.2.1 Purpose

The purpose of this policy, as it applies to proposed commercial or industrial development in Theodore, is to:
(1) provide guidance and identify information the Council may request for a development application within the township of Theodore which supports the outcome of the Centre and Industrial Zone Codes;
(2) assist in the assessment of development in relation to the risk, hazard and adverse consequences caused by flooding.

Overall flood management for personal safety, mitigation and evacuation of the town shall be undertaken through Banana Shire Council's and the Queensland Government's emergency management framework. Council and appropriate authorities for managing Theodore's flood risk (i.e. in particular safety and evacuation) shall assume greater responsibility than the community, however development shall not wholly rely on the disaster management response from appropriate authorities for managing the risk associated with personal safety.

The flood management strategy adopted by Banana Shire Council for Theodore is based on the principles of flood risk management to ensure that commercial or industrial development within the town occurs having regard to:
(1) the compatibility of the development type with the flood hazard to minimise the risk to people's safety and structural damage to buildings;
(2) the social, economic and environmental costs and benefits of developing within a floodplain when balanced against flood risk;
(3) when considering the safety of people for new development a 'shared responsibility' approach will be applied and development shall not wholly rely on Council's disaster management response for managing flood risk;

SC5.2.2 Flood Risk Management

SC5.2.2.1 Overview

The planning scheme intent seeks to avoid the risk and impacts of flood hazard on people and property for proposed commercial and industrial developments within the town of Theodore. In meeting this high-level strategic intent, development needs to respond to the characteristics of a flood hazard event in Theodore. Achieving compliance with Council's floodplain resolution declared defined flood level cannot be readily, reasonably or practicably achieved for commercial and industrial developments. Consequently, the flood management strategy to be adopted by Council for Theodore is based on the principles of flood risk management.

This section provides guidance on preparing a Flood Emergency Management Plan (FEMP) to minimise the flood risk to people at future commercial and industrial businesses and to mitigate the flood risk to building and property to an acceptable level through planning and design opportunities. A FEMP is the preferred document prepared at the application stage to develop suitable measures to manage 'life safety' (i.e. locally at the premises) and demonstrate appropriate mitigation measures to reduce damage to buildings and property. The FEMP is expected to be:
(1) conditioned and associated with the life of the development; and
(2) continuously improved through the suitability, adequacy and effectiveness of the plan and the way the risk management is integrated into the development operation;

The characteristic of the flood hazard in Theodore is presented in the KBR Flood Studies and Risk Assessment conducted for Council. Development needs shall respond to the outcomes provided in these assessments and consequently a fit-for-purpose flood risk assessment for flooding shall be undertaken to identify and achieve an acceptable or tolerable level of risk for personal safety and property in Theodore. The fit-for-purpose flood risk assessment shall be:

(1) a formal means of identifying and managing the existing, future and residual risks of flooding to the proposed development;
(2) a stand-alone document that incorporates the result of the existing flood studies into the report. The fit-for-purpose flood risk assessment may form part of a detailed (FEMP) as described in Section SC5.2.2.2 to demonstrate that the proposed commercial or industrial development can appropriately mitigate the risks to people and property to an acceptable or tolerable level;
(3) prepared by a suitably qualified professional consultant engaged to undertake the flood risk assessment in accordance with the framework outlined in AS/NZS ISO 31000: 2018 Risk Management. Where aspects of the flood risk assessment discuss engineering principles, the flood risk assessment must be jointly undertaken and signed by a Registered Professional Engineer Queensland with expertise in that field of engineering;

The fit-for-purpose risk assessment shall also integrate and respond to the management of flooding that is managed through the Council and appropriate authorities for flood events that impact on the public safety of the Theodore community (i.e. that cause isolation and ultimately inundate the town).

The intent of the fit-for-purpose flood risk assessment is to ensure that risks, including safety, environmental, social and economic associated with the proposed use are compatible with the flood hazard. For example, a warehouse for the purpose of storing concrete pipes will incur less flood damage losses when compared to a warehouse used to store electrical appliances. The storage of hazardous chemicals may not be an appropriate use given environmental impacts if flooded, even though the economic damages and safety risk may be low or moderate.

SC5.2.2.2 Flood Emergency Management Plans

The fit-for-purpose flood risk assessment for each commercial and industrial development application in the town of Theodore is most suitably addressed via a Flood Emergency Management Plan (FEMP). A FEMP shall:

(1) be one of the tools used to mitigate the residual risk from flooding;
(2) form part of a flood risk assessment, but where relied upon for development, including a condition of development, it is to compromise a stand-alone document suitable to guide the operation of a facility;

The FEMP, where appropriate, should consider the following items at a minimum:

(1) identification of:
    (a) the stakeholders exposed to or affected by the risk of flooding and their compatibility with the risk and how flood risk to people is managed;
    (b) number of people likely to be at risk at the premises;
(2) hazard in all floods up to the Probable Maximum Flood (PMF, the largest flood that could reasonably be expected to occur) – the suitability of a land use must consider the implications of all floods, particularly in regard to the risk to people and property;
(3) burden placed on emergency services – while it is important to provide safe access for Emergency Services, they cannot be relied on as a solution to egress difficulties and evacuation as this would increase the burden on Emergency Services;
(4) length of flood recovery and social and economic impacts. Consideration should be given to not only building and contents damages from flooding, but the flood compatibility of any activities being conducted on the premises and the economic impacts of downtime during flood recovery on business and employees' economic resilience;
(5) identification of all critical electrical services, hazardous storages / goods and other high-risk elements including the mitigation or minimisation of risk and associated environmental impacts;
(6) flood-resilient design – this may include both using flood-compatible materials and building design aspects such as locating the least flood-tolerant uses at the highest development levels;
(7) impact of increases in rainfall intensity due to climate change in regard to safety and property damage;
(8) the proposed method of perpetuating the restricted use and required mitigation measures through appropriate forms of legal documentation, notation on titles and methods for conveying the risk management data to future owners and leaseholders;
(9) estimation of flood risk; that is, the likelihood and consequences of flooding;

The town of Theodore is flooded by the Dawson River and Castle Creek and, based on the investigation completed by consultants KBR (Sept. 2019), the preferred mitigation approach has yet to be determined. Despite this, the FEMP shall consider the following, in co- ordination with Council, to minimise the burden on Emergency Services:

(1) flood warning time – it should be appreciated that while the Dawson River may have a suitable flood warning time, development east of Castle Creek may not be feasible due to the potential for rapid or flash flooding;
(2) evacuation routes –applicable evacuation routes are to be identified. If the routes are to be relied upon to evacuate a site, the flood immunity of those routes should be assessed together with the safety of people moving via those routes;
(3) isolation within Theodore (i.e. sheltering in place and waiting for a flood to abate) is not a viable option due to the potential flood depth and periods of isolation. Evacuation must occur prior to the inundation of the evacuation route and ultimately the township;
(4) vertical evacuation (i.e. sheltering in place) – while a potential last-resort option, cannot be totally relied on as autonomous solution as ultimately an assisted rescue will be required due to the extended length of isolation. This option will place additional burden of Emergency Services and could only be supported on a community scale with Council co-ordination;

SC5.2.3 Flood Risk Assessment

Risk assessment is the overall process of risk identification, risk analysis and risk evaluation. Risk assessment should be conducted systematically, iteratively and collaboratively, drawing on the knowledge and views of stakeholders. It should use the best available information, supplemented by further enquiry as necessary (ISO 31000:2018).

SC5.2.3.1 Risk Identification and Risk Analysis

The flood hazard and associated flood risk is provided in the following KBR studies:

(1) *Banana Shire Council – Fit-for-Purpose Flood Risk Assessments* – KBR (August 2019);
(2) *Banana Shire Flood Study Stage 2 – Floodplain Management Plan* - KBR (January 2017); and
(3) *Dawson River Flood Study – Stage 2, Hydrological Assessment Report* - KBR (May 2016).

The KBR numerical flood model results shall be made available to enable the flood risk associated with a proposed development to be appropriately identified for incorporation into the FEMP. The flood model results also assist in the analysis of risk. Where required, the flood models results may be used to assess development designs, flood risk treatment, timing etc. to more accurately consider the impact of flooding and assist the risk analysis process.

Details of the risk treatment options are discussed in Section SC5.2.4.1 to Section 5.2.4.2 and will form part of the assessment of the planning and design opportunities and constraints associated with a proposed development. As previously identified, it will be important that a coordinated approach be adopted in relation to ‘life safety’ by all relevant stakeholders such as State Emergency Services, Bureau of Meteorology, Council and occupants within Theodore.

SC5.2.3.2 Risk Evaluation

Each risk is assigned a priority based on its level of likelihood, consequence and confidence, which determines the order in which they are reported and addressed. The outcomes of the evaluation are recommendations concerning which risks:

(1) require treatment, and in which order they should be treated;
(2) require further detailed assessment to improve confidence, based on priority, current confidence and whether an improvement would change the management outcome. The flood model results provide a relatively high degree of confidence in the flood hazard in Theodore;
(3) do not require further detailed assessment or treatment, with the risk subject to existing controls, and ongoing monitoring and review;

SC5.2.4 Flood Risk Treatments

It is important to consider all direct and indirect costs and benefits, whether tangible or intangible, and assess them in financial or other terms. More than one option may be considered and adopted either separately or in combination. Measures to treat risk may include:

(1) avoiding, taking, increasing (to pursue an opportunity) or removing the source of the risk;
(2) changing, optimising, sharing or retaining the risk.

Risk treatment measures are often termed 'Passive' or 'Active' measures. Passive flood protection (PFP) measures are an integral component of the FEMP and include the structural/permanent features that provide flood protection and safety in a building and surrounds. Active flood protection (AFP) measures are also an integral part of flood protection and are typically characterised by items and/or systems, which require a certain amount of motion and response in order to function.

SC5.2.4.1 Passive Flood Risk Treatments

(1) Floor levels at minimum should conform to the Zone Code requirements that maximises flood immunity as far as practicable. However, the choice of the appropriate design flood level as the basis for setting the floor level shall also be based on the degree of risk from a combination of:
   (a) the consequences (e.g. economic and social consequences);
   (b) how often flooding might occur (refer Table SC5.2.1); and
   (c) the exposure to the risk.

Table SC5.2.1 Probability of Experiencing a Flood of Given Size in 30 years (Source BMT 2020)

Size of flood (AEP)	Probability of experiencing the flood once in 30 years
10%	95.8%
5%	78.5%
2%	45.5%
1%	26.0%
o.5%	14.0%

As provided in the above table the probability of experiencing a 1 in 20 year AEP flood in a 30 year design life is nearly 80% (i.e. almost inevitable), hence the design, siting and mitigation measures will be important to ensure the development is structurally adequate and can efficiently recover with limited economic and social consequences.

(2) The flood immunity of buildings and developments may be increased through options such as:
   (a) Levee / Perimeter Bunds - Levees can be used to reduce the frequency of riverine flooding are often an economically attractive measure. For events up to their design immunity, levees can provide significant reductions in damage and allow the development to recover efficiently, provided the structural integrity of the levee is not compromised (NERAG, 2015);
   (b) Flood Proofing of Buildings - These mitigation measures may involve using materials that are flood compatible (i.e. are resistant to damage by floodwaters) or temporary measures including a range of built-in automatic and manual barrier systems that aim to prevent or limit water penetration into the building during a flood (NERAG, 2015);
   (c) Flood Gates – Flood gates may form part of a Levee / Perimeter bund option or part of the flood proofing of buildings;

(3) The development layout must include provision for safe evacuation in the design to ensure exiting the site does not result in passing through flood water of increasing depth. Consequently, internal access roads are required to ensure 'rising road' access provides a safe link to an external road which can take occupants to a safer area, such that they are not cut off by floodwaters. The internal access or road layout should also be commensurate with community evacuation routes to ensure occupants are not hindered in achieving the ultimate evacuation of the township. Furthermore, access requirements should support and not hinder disaster management capacity and capabilities of the township.

(4) Similar to floor levels, due to the safety risk and additional recovery time associated with the flooding of essential services (including electrical switchboards and communications equipment), essential services should be provided at a level that maximises flood immunity as far as practicable. Mitigation measures to improve flood immunity and minimise flood damage are similar to building controls and include flood bunding, flood proofing etc.

SC5.2.4.2 Reactive Flood Risk Treatments

Reactive flood risk treatment measures assist to ensure the business enterprise can appropriately respond during all phases of a flood emergency. Based on the Qld Business Readiness Index (refer to Section SC5.2.4.3), Business Continuity Planning Process, reactive treatment measures will form for part of the Prevention, Preparedness, Response and Recovery (PPRR) framework. The owner or managing entity responsible for the business enterprise and its employees will need to recognise that they are responsible for implementing the PPRR framework and also for:

(1) implementing their FEMP,

(2) informing themselves about flood risks,
(3) being aware of how to respond to a flood threat;
(4) being aware of how to recover from a flood threat or from inundation (particularly health and safety); and
(5) heeding the advice of relevant government and emergency management personnel during flood events shall take precedence over any local FEMP;

The following section provides general advice regarding responsibilities of the owner or managing entity for managing flood risks and advice concerning the development of a business contingency / flood response plan. Discussion is also provided on specific reactive mitigation measures that could be implemented for commercial and industrial developments in Theodore.

(1) The owner or managing entity responsible for a commercial or industrial enterprise and employees shall ensure the business provides the necessary resources needed to implement the flood emergency plan (i.e. including time, finance, equipment, training, testing and personnel). The owner or managing entity shall also ensure a responsible person(s) is always on-site to appropriately manage, direct and control the implementation of the facility's flood emergency response procedures and systems.
Where appropriate or necessary through legislation, *AS 3745 - 2010 Planning for Emergencies in Facilities* shall be used in the development and implementation of an appropriate flood strategy.
Typically, responsibilities of the owner/managing entity include:
    (a) establishing the responsible person(s) in accordance with the FEMP;
    (b) ensuring that the FEMP is readily identifiable and to responsible person(s);
    (c) all employees being aware of the emergency flood response procedures and resourcing for relevant training relating to procedures during a flood emergency;
    (d) testing the emergency flood procedures;
    (e) authorising or having authorised the release and implementation of the FEMP. The following should also apply to the implementation process:
        (i) review of procedures – the effect of the procedures on an organisation should be monitored at all stages of the implementation process. Amendments should be made to rectify any deficiencies or inaccuracies that are identified in the procedures;
        (ii) establishing arrangements to ensure the continuing operation of the FEMP, e.g. following resignations, holidays, training of other responsible person(s) etc;
    (f) establishing strategies to ensure visitors are made aware of emergency response procedures;
    (g) ensuring the emergency response procedures remain viable and effective by reviewing and testing the emergency response procedures (i.e. at least annually);
    (h) ensuring that a permanent record of flood events for each emergency is compiled and retained;
    (i) identifying and rectifying deficiencies and opportunities for improvement in the FEMP and emergency response procedures;
    (j) nominating the validity period for the emergency plan and the evacuation diagram, noting this should not exceed 5 years; and
    (k) ensuring that the emergency plan is reviewed at the end of the validity period after or after an emergency, an exercise or any changes that affect the emergency plan;

(2) Typically, the appointed responsible person(s) shall be responsible for directing and controlling the implementation of the facility's flood emergency response procedures. The primary role of the responsible person(s) is to give first priority to the safety of the employees and visitors during a flood emergency, whereby life safety takes precedence over asset protection.
The responsible person(s) will consist of at least one person located on the site (during operational hours), with either one or preferably two alternate people (located on site) being able to replace the main responsible person(s) in the event of the other person(s) being incapacitated or away (i.e. located on-site while occupied, e.g. manager).
Providing an appropriate number of responsible person(s) will ensure that at least one trained person is on-site to respond to a flood emergency. AS 3745 - 2010 recommends that persons appointed should:
    (a) be capable of performing their duties;
    (b) have leadership qualities and command authority;
    (c) have clear diction and be able to communicate with the majority of occupants and visitors;
    (d) be available to undertaken their appointed duties;
    (e) be capable of remaining calm under pressure; and
    (f) have or be willing and able to undertake relevant training;

Furthermore, the responsible person(s) should also have maturity of judgement, good decision-making skills and be familiar with their area of responsibility.
During emergencies, instructions given by the responsible person shall take precedence over the normal management structure. In turn, instructions given by Council Officers, the Police or Emergency Services personnel shall take precedence over the site FEMP and instructions issued by the relevant person(s).

(3) The purpose of developing a Business Continuity Plan is to ensure the continuation of the business enterprise during and following a flood incident that results in disruption to normal operational capability. The phases of the PPRR are:
   (a) Prevention - Risk Management planning incorporates the 'Prevention' element that identifies and manages the likelihood and/or effects of risk associated with an incident;
   (b) Preparedness - Business Impact Analysis identifies and prioritises the key activities of a business that may be adversely affected by any disruptions;
   (c) Response – Incident Response planning outlines immediate actions taken to respond to an incident in terms of containment, control and minimising impacts;
   (d) Recovery - Recovery planning outlines actions taken to recover from an incident in order to minimise disruption and recovery times;

(4) Implementing an advanced flood warning system will form part of the 'Preparedness' and 'Response' plan to ensure the flood risk 'life' and property is minimised. Advanced flood warning can be as simple as checking flood warnings on the Bureau of Meteorology web site through to sophisticated on-site water level monitoring systems.
   (a) Environmental indicators such as prolonged heavy rainfall and rising levels may provide a business with the first indication of the potential for flooding to occur. New commercial and industrial development shall integrate their local FEMP with the community-scale emergency flood response plan and also consider their own weather outlook, rainfall and flood gauge check(s) (as appropriate) to ensure early preparation of a potential or impending flood.
   A responsible person(s) located at the premises should go on alert when either environmental indicators (rainfall, flood gauge checks etc.), Bureau of Meteorology (BOM) or a recognised authority (e.g. Council) issue a relevant severe weather warning or a flood watch/warning for the Dawson River or Castle Creek.
   To ensure alerts are delivered in a timely manner, the responsible person(s) implementing the FEMP should always have access to a suitable mobile device connected to BOM, Disaster Watch, the Banana Shire Council website, Emergency Australia or similar to receive advanced flood warnings.
   (b) For developments located adjacent to the Dawson River or in particular Castle Creek, a water level monitoring station could be integrated into the facilities' warning system to provide advance flood warning. Typically, the systems use a 'Real Time Radio Telemetry' system to transfer data to the facility and may also be integrated and / or used with existing Bureau of Meteorology (BOM) Telemetry systems.
   The flood warning system data could be designed and integrated into the overall emergency system to enable pre-defined trigger levels to activate the automated alarm system.

(5) Flood warning signs located near designated building entry and vehicle access route signs (similar to fire evacuation signage) provide a permanent and readily comprehensible method for communicating the risk of flooding at a site. Signage should also promote safe behaviour and is ultimately intended to promote the flood awareness of staff and visitors to the site.

(6) Depending upon the building design, pump(s) and a back-up power supply could be required to ensure that the development does not flood as a result of direct rainfall when gravity drainage to external areas can no longer occur and to ensure continuity of power for essential development activities (e.g. security and access control systems, refrigeration etc).

(7) The National Strategy for Disaster Resilience (COAG 2011) indicates that *'disaster resilience is based on individuals taking their share of responsibility for preventing, preparing for, responding to and recovering from disasters'* (COAG 2011, p. v). Individuals need to be aware of the flood risk they face and what to do about it. They can draw on guidance, resources, government policies and other sources, such as community organisations, to obtain information and assistance.
An important component of any FEMP is the education of staff in relation to the level of flood risk associated with a site and the measures to be taken in the event of a flood being imminent at the direction of the appointed responsible person(s).

(8) Training should be conducted for owners or managing entities regarding their obligations and all appointed responsible person(s) to ensure they can competently execute their obligations.
The training of an appointed responsible person(s) should extend to permanent employees of the development where relevant and appropriate to ensure familiarity with procedures and provide the ability to assist if additional personnel are required to maximise preparedness.

All training and skills retention activities should be conducted or supervised by competent person(s) or a registered training organisation. In addition, the training and exercises including review and maintenance should be developed and continuously improved.

(9) It is necessary for evacuation to occur in a timely manner prior to the onset of flooding sufficient to inundate the site. The trigger for evacuation will need to consider the requirements for closing a site in addition to the time necessary to move off site. It is envisaged that the FEMP prepared for a site will nominate evacuation triggers that provide ample time for orderly closure and evacuation. Any requirement for evacuation nominated in a FEMP is subordinate to a direction to evacuate provided by a Council Officer, the Police, or Emergency Services.

SC5.2.4.3 Additional guidance

Documents which provide guidance on meeting the purpose of the Flood Planning Scheme Policy include:

(1) State Planning Policy;
(2) AS/NZS ISO 31000:2018 Risk Management;
(3) Australian Disaster Resilience Handbook Collection, with particular reference to:
    (a) National Emergency Risk Assessment Guidelines; and
    (b) Managing the floodplain: A guide to Best Practice in Flood Risk Management in Australia.
(4) Flood Resilient Building Guidance for Queensland Homes: https://www.qra.qld.gov.au/sites/default/files/2019-04/flood_resilient_building_guidance_for_queensland_homes_-_april_2019.pdf
(5) Emergency Volunteering Queensland has a 'business readiness index', particularly the business continuity planning template: https://www.emergencyvolunteering.com.au/qld/disasterready/bri

The management of flooding will evolve over time. New versions of the guidelines or new guidelines that represent current best practice shall also be considered.

SC5.3 Landscaping Planning Scheme Policy

SC5.3.1 Purpose

The purpose of this policy is to ensure that landscaping works achieve acceptable minimum standards and utilise an appropriate selection of species to provide the outcomes sought by the Development Design Code.

SC5.3.2 Application

This policy is applicable to all landscaping works undertaken as a result of requirements elsewhere in the Planning Scheme for accepted and assessable development.

SC5.3.3 Preparation

The area of works is to be prepared for planting and then vegetated in accordance with the standards of the CMDG.

SC5.3.4 Species

Council's preferred plant species are provided in the table below.

Note: All species attaining heights of over 4 metres (at the very maximum and in ultimate conditions) are unsuitable to be planted under powerlines, and alternative species should be used in these locations.

Table SC5.3.1 Preferred plant species

Acacia bancroftiorum
Bancroft's Wattle

DESCRIPTION:

Shrub or small tree to 6m high. Glaucous, obovate phyllodes with blunt end to 20cm long. Lemon-yellow ball flowers in sprays to 8cm.

Acacia decora
Pretty Wattle

DESCRIPTION:

Acacia decora is a small to large shrub, often under 2m in height but sometimes to 5m. The phyllodes are lance-shaped, blue-green in colour, with a prominent mid-vein and minor branching veins. The flowers are borne in large upright clusters both at the ends of the branches (terminal) and in the phyllode axils, making this one of the showiest of all wattles.
This is a hardy species which is tolerant of a wide range of conditions. It prefers well drained soils in light shade to full sun. *A.decora* is a worthwhile addition to gardens in many areas of Australia.

Acacia harpophylla
Brigalow

DESCRIPTION:

A medium-sized tree to 24m with a spread of 4m. At its best it attains a diameter of 0.6m.
The bark is deeply furrowed longitudinally, hard, dark brown, dark grey to black. Brigalow occurs from the immediate inland to the central west areas of eastern Australia.

Table SC5.3.1 Preferred plant species

Acacia macradenia
Zig Zag Wattle

DESCRIPTION:

A winter flowering wattle, Acacia macradenia is an attractive medium shrub with bright yellow flowers and zig-zagged branchlets, giving it an interesting architectural form.
This wattle is a hardy plant that will grow particularly well in warm dry areas. It is somewhat tolerant of frosts, however harsh winters in inland and southern areas can kill the plant. Grows best in a well-drained soil in sunny or lightly shaded positions.
Height 3 – 4m, width 2 -3m, flower colour yellow in winter.

Acacia pendula
Myall

DESCRIPTION:

Acacia pendula (A. Cunn. Ex G. Don) is a small tree with rough grey bark.
It has a stout trunk that divides into a few main stems that support drooping pendulums of silver-leaved branches. It commonly grows anywhere between 6 - 12m in height.
The smooth phyllodes (or leaves) are narrow and taper at both ends. They can be up to 10cm long and are usually slightly curved. Three parallel veins may be obscured by very fine ashen hairs that press to the leaf surface. This provides a yellow tinge to their otherwise blue-green appearance.
Rather sparse yellow flowers are borne on a slender and short main stalk (peduncle) within the leaf and branch axil.
The seedpods are distinctively broad and flat, up to 8cm in length, with a small wing along each margin. Seeds usually ripen in mid to late summer).

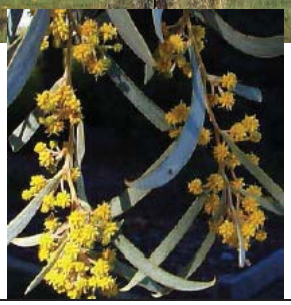


Table SC5.3.1 Preferred plant species

Acacia podalyriifolia
Queensland Wattle

DESCRIPTION:

Acacia podalyriifolia is one of the most popular and widely cultivated of wattles. It is a tall shrub or small tree which reaches about 5 metres in height by a similar spread. Like most members of the genus the mature plant does not have true leaves but has leaf-like flattened stems called phyllodes. In *A.podalyriifolia* the phyllodes are silvery grey in colour, oval in shape and 20-30mm long. The flowers occur in ball-shaped clusters in the axils of the phyllodes and a golden yellow in colour. Flowering is mainly in late winter and early spring *A.podalyriifolia* is a quick growing plant which may flower in its second year. It is very useful as a quick growing screening plant as it generally retains a bushy shape. The species is suited to a wide range of climates, particularly drier areas, although it can be effected by sooty mould in humid climates. It tolerates at least moderate frosts.

Acacia salicina
Doolan

DESCRIPTION:

Acacia salicina is a thornless species of Acacia tree native to Australia. Common names include Cooba, Native Willow, Willow Wattle, Broughton Willow, Sally Wattle and Black Wattle. It is a large shrub or small evergreen tree growing 3 - 20m tall. Bears yellow ball-shaped flowers in winter and spring

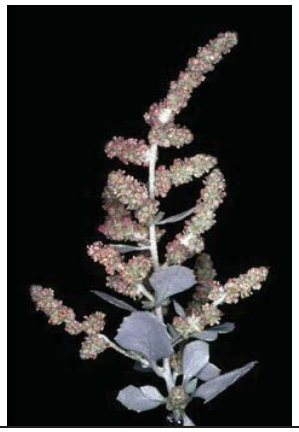
It is a large shrub or small evergreen tree growing 3 - 20m tall. It has a life span of about 10–15 years. It does well in full sun exposure and it tolerates frosts down to -6.7 deg.

Table SC5.3.1 Preferred plant species

Atriplex nummularia
Old Man Saltbush

DESCRIPTION:

Atriplex nummularia, commonly called Old Man Saltbush, is a member of the saltbush family, Chenopodiaceae. There are over 250 species in the Atriplex genus, mostly in sub-tropical and temperate regions of the world. About 61 species occur in Australia. A. nummularia is widespread in the inland semi-arid and arid regions of mainland Australia. It is usually, but not always, found on saline, clay soils in low lying areas like flood plains. However, it is very adaptable and can occur on most soils.
The largest of the Australian saltbushes A. nummularia can grow to 3m high and 2 – 4m wide. Its leaves, 1 – 3cm long, have a scaly coating which gives them an attractive silvery grey colour. The shape of the leaves may vary considerably from elliptical to almost circular, both on the same plant and in different populations of the species.



Brachychiton acerifolius
Flame Tree

DESCRIPTION:

Brachychiton is a genus of 30 or more species, most of which occur in tropical parts of Australia in dry areas or in rainforest. They are large shrubs or trees. Illawarra flame tree is the most commonly cultivated species due to its spectacular crimson flowers. The Kurrajong (B.populneus) is one of the most widely distributed and is also a common tree in cultivation.

Table SC5.3.1 Preferred plant species

Brachychiton austrails
Queensland Bottle Tree

DESCRIPTION:

Small tree from inland areas in northern Queensland growing in rocky outcrops. Suitable for hot dry sites, easy to grow. Suitable around ponds & patios as non-invasive root system. Great container plant indoors or outdoors.

Brachychiton bidwillii
Little Kurrajong

DESCRIPTION:

Brachychiton bidwillii, commonly known as the dwarf kurrajong, is a small tree found in eastern Australia. It was originally classified in the family Sterculiaceae, which is now within Malvaceae. Most forms of Brachychiton bidwillii drop their large, hand-shaped leaves before flowering.

As the plants age, flower production increases, and after 8 years or so they may produce bunches of up to 50 flowers coming directly from the trunk, as well as the usual flowers on twigs and branches.

Very ornamental, they have not been in general cultivation for long due to their rather variable nature, but new cultivars are coming onto the market that perform well in average gardens. Suitable for larger pots planters and tubs.

Brachychiton discolour
Lacebark Tree

DESCRIPTION:

Brachychiton is a genus of 30 or more species, most of which occur in tropical parts of Australia in dry areas or in rainforest. They are large shrubs or trees. One of the most commonly cultivated is the Illawarra flame tree (*Brachychiton acerifolius*) which is popular due to its spectacular crimson flowers. The Kurrajong (*B.populneus*) is one of the most widely distributed and is also a common tree in cultivation. Lacebark is a medium sized tree to about 20 - 30m. Leaves are about 100 to 150 mm long and deeply lobed. The large, bell-shaped flowers are usually deep pink and

Table SC5.3.1 Preferred plant species

occur in clusters at the ends of the branches. The flowers are very spectacular and are followed by seed capsules which contain many large seeds. *B.discolor* is reasonably common in cultivation and is hardy in a range of climates although it may be slow growing. It is partly to completely deciduous before flowering, similar to *B.acerifolius*. It tolerates a range of soils.

Brachychiton populnea
Kurrajong

DESCRIPTION:

Brachychiton populneus is an attractive evergreen tree which ultimately attains a height of 10m - 15m). Though sometimes called “Bottle Tree” on account of its stout trunk, its relative B. rupestris has a more markedly swollen trunk and better lives up to the name. The leaves of B. populneus are a smooth, glossy fresh green, and are oval in shape, tapering to a point at the tip. All members of Brachychiton come from Australia, and B. populneus is found in the eastern part of the country in the states of Queensland and New South Wales. The flowers of Brachychiton populneus are small and bell-shaped (up to 19mm across), composed of sepals fused into a cup, but separating into small lobes at the tips, which curl back. They are greenish-white on the outside and speckled with red on the inside. While attractive when seen up close, they are scattered among the leaves and not conspicuous. The seed pods dangle from the branches on long slender stalks and resemble little brown purses up to 7½cm long. The chalky yellow seeds within are encased in a papery covering and surrounded by coarse hairs which may be irritating to the touch.

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Brachychiton rupestris
Narrow-Leaved Bottle Tree

DESCRIPTION:

Brachychiton rupestris is a member of the Sterculiaceae family and is commonly referred to as the Queensland Bottle Tree, Queensland-Flaschenbaum, or the Narrowleaf Bottle Tree or Kurrajong. The common name “bottle tree” refers to the characteristic trunk of the tree, which can reach a 2m diameter. The height of the tree is less impressive, with a maximum height of 18 - 20m, smaller in cultivation; the canopy spans 5 - 12m in diameter. The tree will drop its leaves before the flowering period,. The characteristic bottle shape should develop in approximately five to eight years. The canopy will also thin out during a drought.

Cadellia pentastylus
Ooline

DESCRIPTION:

Ooline is a tree growing to 10m (rarely to 25m) with dark, hard and scaly bark. Its leaves are alternate, simple (undivided), on short hairy stalks (petioles) 2 - 7mm long, glossy above, dull and paler below. The leaf blades are obovate (egg-shaped, attached at narrow end) to elliptical, usually 1 - 7cm long, and 1.5 - 2cm wide,. The apex is rounded or slightly indented (emarginate), and the veins are prominent on both surfaces when dry.
Flowers are usually single and have five white petals, each 5 - 7mm long. Fruit are a cluster of five obovate (reverse egg-shaped) drupes, 3 - 5mm in diameter. The fruits are brownish, with a wrinkled surface, slightly compressed and surrounded by five enlarged, spreading red and papery sepals (the outer lobes at the base of the flower).

Table SC5.3.1 Preferred plant species

Callistemon spp.
Bottlebrushes

DESCRIPTION:

Bottlebrushes are members of the genus Callistemon and belong to the family Myrtaceae. They are closely related to paperbark melaleucas, which also have 'bottlebrush' shaped flower spikes. It is difficult to tell to which genus some species belong. There are 40 species currently called Callistemon.

Cassia brewsteri var brewsteri
Leichhardt Bean

DESCRIPTION:

Cassia brewsteri, commonly known as Brewster's Cassia, Leichhardt Bean, Cassia pea and Bean Tree is a species of leguminous shrubs or small trees, of the plant family Fabaceae. They grow naturally in Queensland, Australia. They primarily grow in open forest, and occasionally in monsoon forest.[1] Cassia brewsteri, as with other Cassia, produces pinnate leaves. In the case of Cassia brewsteri the leaflets are approximately 5cm long, bright green, glossy or waxy above and whitish-green below. Flowers are yellow, often with red markings, and produced in racemes. The flowers are followed by round pods, up to 45cm long.

Cassia brewsteri var tomentella
Velvet Bean

DESCRIPTION:

Cassia brewsteri, commonly known as Brewster's Cassia, Leichhardt Bean, Cassia pea and Bean Tree is a species of leguminous shrubs or small trees, of the plant family Fabaceae. They grow naturally in Queensland, Australia. They primarily grow in open forest, and occasionally in monsoon forest.[1] Cassia brewsteri, as with other Cassia, produces pinnate leaves. In the case of Cassia brewsteri the leaflets are approximately 5 cm long, bright green, glossy or waxy above and whitish-green below. Flowers are yellow, often with red markings, and produced in racemes. The flowers are followed by round pods, up to 45 cm long

Table SC5.3.1 Preferred plant species

Corymbia tessellaris
Moreton Bay Ash

DESCRIPTION:

This tree is distinguished by the dark tessellated or crocodile scale bark forming a dark stocking at the base of the trunk, with smooth white bark above it. The narrow, lanceolate leaves may be up to about 15 cm long and 1 cm wide. The fruiting capsules are thin and can be squashed easily with the fingers. Hence, it is also known as one of the paper-fruited bloodwoods.

Corymbia variegata var citriodora
Lemon-Scented Gum

DESCRIPTION:

Tree to 50m tall. Forming a lignotuber.
Bark smooth throughout, white to pink or coppery, often powdery, shedding in thin curling flakes, mottling of trunk often not pronounced.
Juvenile growth (coppice or field seedlings to 50cm), stem rounded in cross-section, scabrid; juvenile leaves always petiolate, opposite for 2 or 3 pairs then alternate, ovate to lanceolate, 14 – 21cm long, 4.5 – 8cm wide, the base usually peltate for many nodes, green; petiole and lamina scabrid for many nodes.
Adult leaves alternate, petiole 1 – 2.5cm long; blade narrowly lanceolate to falcate, (7)10 – 23cm long, 0.6 – 2.8(3.5)cm wide, base tapering to petiole, concolorous, glossy, green, strongly penniveined, very densely reticulate, intramarginal vein parallel to and just within margin, oil glands island. Leaves lemon-scented when crushed or not so.
Inflorescences axillary compound, peduncles 0.3 – 1cm long; buds 3 per umbel, pedicels 0.1 – 0.6cm long. Mature buds obovoid to pyriform, 0.6 – 1cm long, 0.5 – 0.7cm wide, green to creamy, usually smooth, scar usually absent (outer operculum held to or almost to flowering, operculum scar therefore obvious only at late bud development if at all), operculum rounded to conical or slightly beaked, stamens inflexed, anthers cuboid or cuneate, versatile, dorsifixed, dehiscing by longitudinal slits (non-confluent), style long, stigma blunt or mop-like, locules 3, the placentae each with 5 vertical ovule rows (sometimes indistinct). Flowers white.

Table SC5.3.1 Preferred plant species

Corymbia variegata var variegata
Spotted Gum

DESCRIPTION:

Spotted gum is a species that grows well on favourable sites, usually attaining 35 - 45m in height and 1 - 1.3m *diameter at breast height* (dbh), with exceptionally large trees reaching 70m and exceeding 3m dbh. On poorer sites it may be 20 - 35m in height and 0.7 - 1.2m diameter. This species naturally occurs in open-forest to tall open-forest formation on the east coast of Australia from the Victoria-New South Wales border to the Maryborough District in Queensland.

Dodonaea viscose
Sticky Hopbush

DESCRIPTION:

Dodonaea viscosa, commonly called 'sticky hop bush', is a member of the Sapindaceae family. *Dodonaea viscosa* can be found in every state and territory of Australia. *D. viscosa* subsp. *mucronata* is an erect to spreading shrub growing from 1.5 - 4m tall. The leaves are sticky leathery. The foliage is evergreen, with the leaf shape usually spatulate (spoon-shaped). In general, *Dodonaea viscosa* is an extremely hardy species and is able to resprout from the base. The stand-out horticultural feature of this species is the brilliant colour of the capsules. Other desirable features include its successful use as a hedge due to the dense habit. There is also a popular non-native form with purple foliage, referred to as *Dodonaea* 'Purpurea'.
Dodonaea viscosa flowers are inconspicuous, with no petals. These flowers occur during spring and summer and are less than a centimetre in size. The plants are dioecious; i.e. the flowers are male or female and usually occur on separate plants.

Table SC5.3.1 Preferred plant species

Eremophila spp.
Turkey Bush/ Fuchsia

DESCRIPTION:

Eremophila subfloccosa (Dense-felted Eremophila) is a beautiful foliage plant. It is a low, spreading, many branched shrub 0.5 -1m in height by 1 - 2m wide. The young growth is densely hairy making it soft and velvety to the touch. Leaves are grey-green to grey-white, ovate-oblong to elliptical-oblong, alternate, 20 - 40mm long by 8mm wide, with entire margins. The tubular flowers of *Eremophila subfloccosa* appear singly in axils. Approximately 25mm long, they are greenish-yellow in colour with prominent protruding stamens. Flowers appear in spring and bloom for approximately 8 to12 weeks. The glabrous fruits are almost globular, 5 - 10mm in diameter. This genus grows in sandy soils, gravel, clay, loam and laterite on undulating plains, margins of salt lakes and disturbed roadsides.

Eucalyptus cambageana
Dawson Blackbutt

DESCRIPTION:

Tree to 25m tall. Forming a lignotuber. Bark rough for 2 - 3m on the lower trunk, usually hard, tessellated or box-type, dark grey to black with abrupt change to smooth bark, which is normally white to grey, rarely creamy pink to yellow.
Adult leaves alternate, petiole 1 – 2.7cm long; blade lanceolate to broadly lanceolate, sometimes falcate, 7.5 – 16.5cm long, 1.2 – 3(4)cm wide, base tapering to petiole, concolorous, glossy, green, side-veins acute, reticulation dense, intramarginal vein parallel to and well removed from margin, oil glands intersectional or obscure.
Inflorescence terminal compound, peduncles 0.5 – 1.2cm long, buds 7 per umbel, pedicels 0.3 – 0.6(1.1)cm long. Mature buds obovoid, 0.4 – 0.5cm long, 0.2 – 0.4cm wide, scar present, operculum conical to rounded, stamens irregularly flexed, staminodes absent, anthers adnate, basifixed, cuboid or globoid, style long, stigma blunt, locules 5, the placentae each with 4 vertical ovule rows. Flowers white.

Table SC5.3.1 Preferred plant species

Eucalyptus coolabah
Coolibah

DESCRIPTION:

Tree to 20m high; bark persistent on trunk and larger branches, grey with whitish patches, fibrous-flaky, smooth above, white or grey, shedding in short ribbons. Juvenile leaves disjunct, lanceolate to broad-lanceolate, dull grey-green to glaucous. Adult leaves disjunct, narrow-lanceolate to lanceolate, 8 – 17cm long, 1 – 2cm wide, grey-green, dull, concolorous. Conflorescence compound; umbellasters 7-flowered; peduncle narrowly flattened or angular, 1 – 9mm long; pedicels terete, 1 – 4mm long. Buds ovoid, glaucous or not glaucous, 2 – 4.5mm long, 2 – 3mm diam., scar present; calyptra conical, longer than and as wide as hypanthium. All stamens fertile; filaments irregularly flexed in bud; anthers adnate, oblong. Fruit globose or hemispherical, 2 – 4mm long, 2 – 4mm diam.; disc flat, narrow; valves exserted.

Eucalyptus melanophloia
Broad-Leaved Iron Bark

DESCRIPTION:

Tree to 20m high; bark persistent throughout, grey-black, `ironbark'. Juvenile leaves opposite after 13th node, ovate to orbiculate, glaucous. Adult leaves opposite, broad-lanceolate or ovate, 5 – 9cm long, 2 – 3.5cm wide, glaucous, dull, concolorous. Conflorescence compound; umbellasters 7-flowered; peduncle terete or angular, 4 – 16mm long; pedicels terete, 1 – 7mm long. Buds shortly fusiform, glaucous, 7 – 9mm long, 3 – 5mm diam., scar present; calyptra conical, shorter than or as long as and as wide as hypanthium. All stamens fertile. Fruit globose, hemispherical, ovoid or urceolate, 3 – 8mm long, 3 – 8mm diam.; disc depressed; valves rim-level or exserted.

Table SC5.3.1 Preferred plant species

Eucalyptus orgadophila
Mountain Coolibah

DESCRIPTION:

Tree to 20m tall. Forming a lignotuber. Bark rough on the lower trunk, box-type, grey with abrupt change to smooth bark, which is normally white to grey, rarely creamy brown, sometimes shiny.
Juvenile growth (coppice or field seedlings to 50cm): stems square in cross-section; juvenile leaves petiolate, alternate, orbicular to ovate to elliptical, 3 – 6cm long, 1.8 – 4cm wide, base round to tapering to petiole, dull, blue-grey to green to rarely glaucous.
Adult leaves alternate, petiole 1 – 2.2cm long; blade lanceolate, 6.5 – 18cm long, 1 – 2.5(3.5)cm wide, base tapering to petiole, concolorous, dull, green to grey-green to blue-grey to rarely glaucous, side-veins acute, reticulation dense to very dense, intramarginal vein parallel to and close to the margin, oil glands absent or obscure.
Inflorescence terminal compound or axillary single umbels, peduncles 0.8 – 1.6cm long, buds 7 per umbel, pedicels 0.5 – 0.9cm long. Mature buds obovoid to pyriform, sometimes the angled petiole extending onto the hypanthium to produce two longitudinal ridges, 0.7 – 0.9cm long, 0.4 – 0.6cm wide, usually not glaucous, rarely glaucous, scar present, operculum rounded to beaked, stamens irregularly flexed, staminodes absent, anthers adnate, basifixed, cuboid or globoid, style long, stigma blunt, locules 4, the placentae each with 4 vertical ovule rows.
Flowers white.
Fruit on pedicels 0.2 – 1cm long, cup-shaped to barrel-shaped, sometimes the angled pedicel extending onto the hypanthium to produce two longitudinal ridges, (0.5)0.7 – 1.1cm long, 0.6 – 1cm wide, disc descending, valves normally 4, enclosed.
Seeds dark brown to grey, 1.8 – 3.5mm long, flattened-ovoid, sometimes pointed at one end, dorsal surface shallowly reticulate, hilum ventral.

Table SC5.3.1 Preferred plant species

Eucalyptus populnea
Poplar Box

DESCRIPTION:

Tree to20 m high; bark persistent on trunk and larger branches, grey with whitish patches, fibrous-flaky ('box'), smooth above, glossy, grey, shedding in short ribbons.
Juvenile leaves disjunct, ovate to orbiculate, dull grey-green. Adult leaves disjunct, broad-lanceolate, elliptic, ovate or rhomboidal, 5 – 11cm long, 2 – 7cm wide, green, glossy, concolorous.
Conflorescence compound; umbellasters 7–11-flowered; peduncle terete, 5 – 11mm long; pedicels terete, 1 – 3mm long. Buds clavate to ovoid, 3 – 5mm long, 2 – 3mm diam., scar present; calyptra hemispherical to conical, shorter than and as wide as hypanthium. All stamens fertile.
Fruit hemispherical or conical, 2–4 mm long, 2–5 mm diam.; disc depressed; valves enclosed or rim-level.

Eucalyptus raveretiana
Black Iron Box

DESCRIPTION:

Eucalyptus raveretiana is a small to medium-sized tree growing to 30m tall. The pith (spongy inner contents) of the branchlets is glandular. The rough bark is thick, longitudinally fissured and coloured grey over brown and sometimes extends onto the base of the larger branches and most branches are a smooth blue or grey colour. The juvenile leaves are ovate in shape and measure up to 10cm long by 3cm wide, opposite for a few pairs and then alternating. The adult leaves are lance-shaped to ovate, 8 - 15cm long by 1-3cm wide and arranged alternately. The upper leaf surface is dull, dark bluish green, with the underside much paler.
The white flowers are grouped into multi-branched clusters at the end of the branchlets. Mature flower buds are 3 - 4mm long by 1 - 2mm wide and have a cone-shaped cap. The seed capsules are hemispherical, about 2mm long by 2mm in diameter and have 3-4 exserted valves, extending well above the body of the capsule. The seeds are ellipse-shaped, brown and smooth to very shallowly reticulate.

Table SC5.3.1 Preferred plant species

Eucalyptus sideroxylon
Muga Ironbark

DESCRIPTION:

Tree to 35m high; bark persistent to smaller branches or throughout, red-brown to brown-black, `ironbark', smooth above, white or grey, shedding in short ribbons.
Juvenile leaves disjunct, broad-lanceolate or ovate, dull green or dull grey-green or glaucous. Adult leaves disjunct, lanceolate, 7 – 14cm long, 1. 2 – 1.8cm wide, green or grey-green, dull, concolorous. Umbellasters 7-flowered; peduncle narrowly flattened or angular, 7 – 20mm long; pedicels terete, 2 – 15mm long. Buds ovoid, clavate to shortly fusiform, sometimes glaucous to 7 – 12mm long, 4 – 6mm diam., scar absent; calyptra conical or rostrate, shorter and narrower than hypanthium. Outer stamens infertile; anthers cuboid.
Fruit globose, hemispherical or ovoid, 4- or 5-locular, 5 – 11mm long, 5 – 9 mm diam.; disc depressed; valves enclosed.

Eucalyptus thozetiana
Mountain Yapunyah

DESCRIPTION:

Tree to 17m tall, trunk fluted. Forming a lignotuber. Bark smooth throughout or less commonly with a short stocking of tessellated blackish rough bark. Smooth bark pinkish to creamy white with greyish patches. Small curls or flakes of imperfectly shed bark may be present at times on the otherwise smooth stems.
Mature buds pyriform to obovoid, slightly angular at the base, 0.4 – 0.6cm long, 0.2 – 0.4cm wide, scar absent (both opercula shed together at flowering), operculum rounded to conical or beaked, stamens inflexed, outer lacking anthers (staminodes), anthers weakly adnate, basifixed, cuboid to globoid, dehiscing by short sub-terminal slits, style long and straight, stigma blunt to tapering, locules 3 or 4, the placentae each with 4 vertical ovule rows. Flowers white.

Table SC5.3.1 Preferred plant species

Eucalyptus tereticornis
Queensland Bluegum

DESCRIPTION:

Tree to 50m high; bark smooth, white or grey, shedding in large plates or flakes.
Juvenile leaves disjunct, broad-lanceolate to ovate, glossy green.
Adult leaves disjunct, narrow-lanceolate or lanceolate, 10 – 20cm long, 1 – 3cm wide, green, dull, concolorous. Umbellasters 7- to rarely 11-flowered; peduncle narrowly flattened or angular, 7 – 25mm long; pedicels terete, 3 – 10mm long. Buds cylindrical or fusiform, 10 – 20mm long, 4 – 8mm diam., scar present; calyptra conical or elongate acute, longer than and as wide as hypanthium.
Fruit globose or ovoid, 4- or 5-locular, 4 – 6mm long, 4 – 8mm diam.; disc raised; valves exserted.

Flindersia australis
Crows Ash

DESCRIPTION:
Tree to 40m high, larger trees usually moderately buttressed; branchlets, leaves and inflorescences glabrous to densely stellate-hairy. Leaves alternate or rarely opposite, crowded towards the end of branches, usually imparipinnate; leaflets 3–19, usually 5–9, narrow- to broad-elliptic, or narrow-ovate, 2.4 – 13cm long, 0.8 – 4.3cm wide, apex acute to obtuse, base obtuse to cuneate and often asymmetric, both surfaces glossy green with lower surface paler, oil dots prominent; lateral petiolules 0 – 3mm long, terminal petiolule 3 – 30mm long. Inflorescences terminal or in the upper axils, to 15cm long. Sepals 2.2 – 2.5mm long, densely hairy. Petals 5 – 7mm long, white to cream, densely hairy outside except for the margins. Capsule woody, 7 – 10cm long, remaining united at the base after splitting; seeds 3.4 – 5cm long, winged at apical end only.

Flindersia collina
Leopard Wood

DESCRIPTION:

Tree to 40m high, outer bark shed in oval flakes leaving shallow depressions; branchlets, leaves and inflorescences glabrous to scaly and stellate-hairy.
Leaves ± opposite, imparipinnate; rachis and petiole winged, especially in young and coppice growth; leaflets 3–7, ± sessile, obovate to broad-obovate or elliptic, 2 – 9cm long, 1 – 4.7cm wide, apex rounded to emarginate, base attenuate to obtuse, upper surface glossy green, lower

surface paler and dull, oil dots faint; leaflets ± sessile.
Inflorescences terminal, spreading, to 17cm long. Sepals c. 1mm long, hairy. Petals 4 – 5mm long, white, ± hairy.
Capsule woody, 2.8 – 5cm long, valves separating fully; seeds 1.5 – 2.5cm long, winged at both ends.

Geijera parviflora
Wilga

DESCRIPTION:

Geijera parviflora is a tall shrub or small tree which can reach 8 - 9m high with a similar spread. It has foliage with a weeping habit of growth with leaves and branches often reaching to ground level. The leaves are linear to narrowly oblong from 50 - 200mm long by about 5 - 10mm wide, aromatic and deep green in colour. The small star-shaped white flowers occur in clusters on branched stems. They are followed by small globular fruits containing glossy black seeds. Flowering usually occurs in winter to spring. Wilga is a beautiful, weeping tree that is not grown as widely as it could be, mainly due to difficulties in propagation. It is rarely available in nurseries. The plant requires well drained soils in sun or semi shade.

Hardenbergia violaceae
Hardenbergia

DESCRIPTION:

Hardenbergia violacea is usually a climbing plant whose branches twist around the stems of other plants. It is moderately vigorous but rarely covers other plants so extensively as to cause damage. Shrubby forms without any climbing tendency are known. The leaves are dark, glossy green with prominent veins and are 75 - 100mm in length. The flowers, which appear in winter and spring, are usually violet in colour but pink, white and other colours are sometimes found. The flowers are the typical "pea" shape consisting of 4 petals; the "standard", the "keel" and two "wings" as shown in the diagram below. H.violacea is a popular and generally hardy garden plant which is widely grown. It is adaptable to most soils and aspects although sunnier positions will usually result in better flowering. Given the wide range of the species, however, forms from drier areas may not be vigorous in tropical areas, and vice versa. Where possible, it is best to select forms from similar climatic zones to the area where they are to be cultivated.

Table SC5.3.1 Preferred plant species

Harpula pendula
Tulip Wood

DESCRIPTION:

A popular garden and urban tree, Tulipwood is a beautiful, native, hardy, and well-behaved small tree that suits landscapes well. It's commonly used along urban coastal roads, as its toughness helps it to thrive in salty areas along ocean shores and in the less than ideal air and soil of the city. Its size makes it a valuable addition from a design standpoint alone, but its evergreen foliage, spring blooms and subsequent beautiful fruit make it a very good landscape specimen.
Tree to 12m high, new growth finely pubescent with fawnish hairs.
Leaves 10 – 30cm long; leaflets mostly 4 – 8 or rarely more, elliptic to oblong-obovate, mostly 5 – 12cm long, 2 – 5cm wide, apex usually acuminate, base sometimes asymmetric, margins entire, lamina glabrous, green and shiny; petiole 2 – 5cm long, petiolules 3 – 5mm long.
Panicles 10 – 20cm long, pedicels 5 – 10mm long. Sepals not persistent in fruit. Petals 6 – 8mm long, greenish yellow.
Capsule 12 – 15mm long, 20 – 30mm wide, inflated, valves papery, yellow to reddish; seeds without an aril.

Hovea spp.
Hovea/Purple Bush Pea

DESCRIPTION:

Subshrubs, shrubs or small trees; stems and branches terete or nearly so. Indumentum of simple hairs of various types present, mostly dense, on branchlets, stipules, peduncles, pedicels, leaf undersurfaces, calyces, bracts and bracteoles. Inner and outer pod surfaces, upper surface of leaves and style glabrous or hairy.
Leaves alternate, simple, flat or arching up from midrib, margins flat to revolute; petiolate; stipules present, often caducous, rarely absent.
Inflorescences sessile or pedunculate, flowers in axillary clusters or racemes, flowering stem indeterminate and growing on of the stem sometimes increasing the internode lengths of the inflorescence; flowers pedicellate, bracteate, bracteolate, bracteoles inserted at or near base of calyx. Calyx of fused sepals forming a campanulate to turbinate tube, 2 upper teeth partially fused and forming upper lip, 3 lower

teeth smaller, free and forming lower lip. Standard and wing petals pinkish mauve, mauve or indigo, rarely white; standard limb circular to oblate, emarginate, wings and keel shorter. Stamens monadelphous, rarely diadelphous, sheath split on upper side; anthers alternately long and basifixed and short and versatile. Ovary with 2 ovules, rarely more.
Pods sessile or stipitate, obliquely circular or broad-elliptic in profile, laterally compressed, turgid; seeds plump, rarely flattish, ellipsoidal, usually 4 – 6mm long, brown to blackish, sometimes mottled, arillate, aril circular to narrow-oblong, surrounding a mostly elongate hilum.

Hymenosporum flavum
Native Frangipani

DESCRIPTION:

In tropical areas of its natural habitat some trees grow to 25m with a stem diameter of 30cm or more, but further south it is often much smaller. In cultivation it is usually only a small, very slender and upright tree up to 10m high. Bark is grey and roughish, and the branches are sparse, radiating in whorls from the main stem. The deep lustrous green leaves, which resemble those of *Pittosporum*, are alternately grouped at the ends of the twiggy branchlets, oval-oblong in shape, and 7 - 15cm long.
This is a very fine flowering tree that begins to bloom in early spring, when the fragrant, open, tubular flowers are cream-coloured. They darken with age to a deep sulphur yellow before they drop. In some forms the flowers may have a reddish centre. The effect of masses of cream and yellow flowers is very lovely. The flowering period extends to early summer. The 4cm diameter flowers in terminal corymbs are sweetly scented, and about the size and shape of those of the frangipani, from which the common name is derived. In other respects the tree bears no resemblance.

Table SC5.3.1 Preferred plant species

Lomandra longifolia
Long-Leaved Mat Rush

DESCRIPTION:

Lomandra longifolia (Spiny-head Mat-rush or Basket Grass) is native Australia wide except for the Northern Territory and Western Australia. Leaves are glossy green, shiny, firm, flat. They can grow from 40cm up to 1m long and 8 - 12mm wide and are usually taller than the flowering stem. Leaf bases are broad with yellow, orange or brownish margins and the tips of the leaves are prominently toothed. The inflorescence is usually a panicle of clusters of sessile flowers. Each cluster has a sharp, slender, straw-coloured bract at its base, which gives it a dense spike-like structure. The inflorescence is usually about half the leaf length (500mm) and individual flowers are about 4mm long. Flowers of *L. longifolia* are scented and dioecious, with the female flower often a little bit longer or larger than the male flower. The heavy-smelling nectar on flowers can attract pollinating beetles. Flowering in warm temperature (late winter/early spring), fruiting occurs 1-2 months after flowering.

Lysophyllum carronii
Red Bauhinia

DESCRIPTION:

Tall shrub or small tree to c. 10m high.
Leaves ovate in outline; pinnae 2, ovate-falcate, mostly 16 – 30mm long, 10 – 20mm wide, 4–7 veined.
Racemes short, 2–10-flowered. Flowers rusty brown. Calyx 10 – 12mm long, base narrow-turbinate or tubular, free portion very shortly lobed, appressed-pubescent. Petals obovate, 12 – 15mm long, silky outside. Stamens exserted; filaments 15 – 20mm long.
Pod slightly convex when ripe, compressed, 5 – 12cm long, 25 – 40mm wide, calyx loose from stipe forming a membranous tubular sheath; seeds 1–6.

Table SC5.3.1 Preferred plant species

Lysophillum hookerii
White Bauhinia

DESCRIPTION:

Lysiphyllum hookeri is also known as *Bauhinia hookeri*, it is a native species, semi-deciduous. Leaflets are paired, flowers with white petals and the upper portion of the long stamens is red. Pod is flat up to 22 cm long and 4.5 cm wide.

Melaleuca spp.
Paperbarks

DESCRIPTION:

The genus Callistemon has recently been combined with the genus Melaleuca. It is endemic to Australia, where many species can be observed growing along watercourses. All species have the flowers crowded together in a spike of variable length, usually red or pink with numerous stamens, the fruits are woody capsules crowded together. The leaves are usually narrow and when held to the light oil dots can often be seen as clear areas. When crushed this oil produces a characteristic smell, strength depends on the number and size of the oil glands in the leaf. Birds and other animals are attracted to the nectar in the flowers. The most common species on campus is Melaleuca (Callistemon) viminalis, the weeping bottlebrush, also common along northern streams. There are many cultivars available.

Pleigonium timorense
Burdekin Plum

DESCRIPTION:

This hardy tree is found in a variety of habitats, in woodland as on campus but most commonly in vine thickets. It is distinguished by the leaves with 7-9 leaflets, the creamy flowers that are borne in large panicles and the depressed-globose, fleshy, dark, plum-coloured, ribbed fruit (2 - 4cm diameter). The remains of these fruit are found below the tree, the hard endocarp, that surrounds the seeds, has small openings almost like elongated miniature port-holes. Although the fruit is edible, it is extremely tart unless processed in some manner or is really ripe.

Table SC5.3.1 Preferred plant species

Senna artemisioides

Butter Bush

DESCRIPTION:

Senna artemisioides (formerly *Cassia artemisioides*) is a small woody shrub to 2m tall with a silvery appearance created by short white hairs on the branchlets and leaves. Leaves are pinnate, 2 - 4cm long with 4-8 pairs of leaflets. These are narrowly cylindrical, grey green or silvery, 1 - 4cm x0.2 - 0.3cm. Bright yellow flowers about 1.5cm diameter are borne in small clusters in the leaf axils. These are followed by straight, brown pods 4 - 8cm x 1cm. This species has been in cultivation for many years and is grown successfully in a wide range of climates. It is particularly suited to drier areas as long as it is given full sun and good drainage. Propagation is usually carried out from seed which germinates readily after treatment with boiling water. Cuttings of hardened, current season's growth should also be successful.

Toona ciliata

Red Cedar

DESCRIPTION:

Medium-sized to large deciduous tree with brown to grey scaly bark.
Leaves 15 – 45cm long, usually paripinnate but sometimes with a terminal leaflet in juvenile growth; leaflets mostly 8–20, ± ovate, often falcate, 4 – 15cm long, 15 – 50mm wide, apex acuminate, base strongly asymmetric, margins entire (± toothed in saplings), mostly glabrous, domatia present as small hair-tufts; petiole 4 – 11cm long, petiolules 5 – 12mm long.
Panicles 20 – 40cm long. Petals 5 – 6mm long, white.
Capsule ellipsoid, 10 – 20mm long, 6 – 8mm diam.; seeds winged at both ends.