Byron Shire Development Control Plan 2014

Chapter B9 Landscaping

PO Box 219 Mullumbimby NSW 2482
70-90 Station Street
DX20007 Mullumbimby
P: 02 6626 7000 F: 02 6684 3018
E: council@byron.nsw.gov.au W: www.byron.nsw.gov.au

This page has been intentionally left blank

Chapter B9 – Landscaping

Contents

Figures

Tables

Document History

Doc No.	Date Amended	Details (e.g. Resolution No.)
#E2014/2581	20 March 2014	Res 14-118 – Public exhibition version
#E2014/32492		Draft to 26 June 2014 Extraordinary Meeting - for adoption
#E2014/42764	26 June 2014	Adopted Version Res 14-315
#E2019/29415	April 2019	Public Exhibition version (Res 19-091) 24.2018.65.1
#E2019/29415	July 2019	New revision for adoption at 15 August 2019 Planning Meeting

This page has been intentionally left blank

B9.1.1 Purpose of this Chapter

This Chapter provides advice, guidelines and controls relating to design, construction and maintenance of landscape and vegetation associated with all developments on land to which Byron LEP 2014 applies.

B9.1.2 Application of this Chapter

This Chapter applies to all development on land subject to Byron LEP 2014.

B9.1.3 Aims of this Chapter

The Aims of this Chapter are:

1. To facilitate implementation and achievement of the relevant Aims contained in Clause 1.2 of Byron LEP 2014.
2. To maintain, protect and enhance the Shire's biodiversity in conjunction with development.
3. To encourage the enhancement of the natural sub-tropical environment particular to the Shire of Byron.
4. To nominate landscaping requirements relating to all forms of development.
5. To ensure that adequate provision is made for landscaping, in accordance with the type, scale and location of the proposed development.
6. To encourage the recognition of climatic influences and the incorporation of landscaping design features to enhance or modify the climatic factors relating to the site.
7. To encourage design for low maintenance landscaping.
8. To encourage the retention of trees and native vegetation of ecological, aesthetic and cultural significance through integration as part of landscaping design.
9. To encourage the planting of species **locally indigenous** to Byron Shire.

To facilitate achievement of these Aims this DCP requires the planning and design of landscaping associated with all types of development to:

1. Consider the broader landscape setting and environmental context of the site;
2. Reflect the natural sub-tropical landscape character particular to the Shire of Byron;
3. Be sensitive to the natural landscape features and land capability of the site;
4. Retain trees and other vegetation of ecological, aesthetic and/or cultural significance;
5. Conserve and improve biodiversity and incorporate plants that are **locally indigenous** in preference to exotic species wherever possible;

6. Incorporate plants that are suited to prevailing site conditions (e.g. soil type, sun, shade, wind, water, nutrient and drainage regimes) that will be hardy, long-lasting and require minimal maintenance;

7. Be complementary to the scale of the proposed buildings and helps to integrate the development into the existing landscape setting;

8. Enhance the function, legibility and amenity of the proposed development;

9. Improve the microclimate in and around buildings, car parking areas and outdoor living spaces;

10. Incorporate innovation in design to contribute towards more sustainable lifestyles in the Byron Shire.

B9.2 Landscape Plan Requirements

B9.2.1 When is a Landscape Plan required?

A Landscape Plan must be submitted with all Development Applications, other than applications for:

1. minor development with minimal environmental impact (e.g. shed, fence, garage);

2. **dwelling houses** (unless on sites which are steeply sloping, in an area that Council considers to be environmentally sensitive, or on bushfire prone land);

3. **secondary dwellings**;

4. **rural workers dwellings** and **dual occupancies (attached)** in a Rural zone.

5. **farmstay accommodation** and **bed and breakfast accommodation** in a Rural zone;

6. change of use where no building works are proposed;

7. minor alterations and additions to existing residential, commercial and industrial buildings.

B9.2.2 Landscape Plans for Development Applications

Landscape plans preferably should be prepared by a landscape architect or qualified landscape designer. Where a Landscape Plan is required for approval as part of a development application, the following documentation must be submitted:

1. A Site Plan that accurately shows existing site conditions including: contours, property boundaries, easements and any other restrictions or encumbrances affecting the property, existing vegetation, buildings and structures (e.g. sheds, roads, retaining walls, fences, water tanks, dams), natural landscape features (e.g. waterways, drainage lines, existing vegetation, wetlands, escarpments), location of driveways and pedestrian access points, location of overhead and underground services (electricity, water, sewer, gas, telecommunications), inspection pits, manhole covers, sewer vents, grease traps and stormwater drainage infrastructure. The location and extent of significant views to and from the site must also be indicated on the Site Plan.

2. A Landscape Concept Plan (drawn at an appropriate scale, e.g. 1:100 or 1:200) that includes the following information:

   a) name, qualifications and contact details of the person who prepared the plan;

   b) north point;

   c) scale bar;

   d) legend;

   e) site boundaries;

   f) all proposed buildings, including eave overhang;

   g) demonstration that the proposal complies with any "minimum landscaped area" requirements according to type of development (e.g. **dual occupancy** and multi-dwelling residential developments);

   h) location, spread and botanical name of existing trees to be removed/ retained;

   i) location and botanical name of existing native vegetation to be removed/ retained;

   j) all proposed surface finishes e.g. areas of concrete, paving, bitumen, gravel, garden beds, proposed edge treatment to garden beds, mown turf;

   k) all proposed structures e.g. retaining walls, pergolas, awnings, fences, swimming pools, decks, driveways, kerb crossovers;

   l) the existing soil characteristics;

   m) details and depth of proposed imported soil and mulch to areas to be planted;

   n) indicative planting (indicated as trees, shrubs, groundcovers);

   o) indicative plant species, planting densities and container sizes.

B9.2.3 Further requirements for more complex developments

For larger scale or more complex development projects, additional documentation may be required to adequately communicate what is proposed. For these projects Landscape Plans and supporting information must be prepared by a landscape architect or qualified landscape designer, and applicants are encouraged to discuss the landscaping requirements prior to lodging the Development Application.

Council may request any or all of the following:

1. Statement of Landscape Intent – A statement of Landscape Intent is a short report describing the aims, objectives, and design rationale that underpin the proposed Landscape Plan. It describes how the landscape proposal addresses any issues identified in an initial site analysis or assessment of the site. It describes the main features of the landscape proposal and can provide additional information to support accompanying Landscape Plans.

2. Landscape Structure Plan – A Landscape Structure Plan indicates the broad conceptual framework for larger scale projects and new subdivision proposals. It shows how the proposed development will "fit" into the existing environment. The Landscape Structure Plan defines the location, extent and proposed landscape treatments of the different functional areas proposed, such as: new residential

allotments, existing vegetation to be retained, environmental protection areas, proposed road hierarchy drainage infrastructure, open space areas, pedestrian and cycle networks.

3. Landscape Master Plan – A Landscape Master Plan is a concept plan for larger scale projects which describes the design intent and rationale for landscaping of larger and more complex sites. Landscape Master Plans must be prepared by a qualified landscape architect.

4. Earthworks Plan – An Earthworks Plan may be required for larger or more complex projects. The Earthworks Plan identifies:

   a) existing and proposed contours;

   b) finished surface levels to clearly indicate the depth of **excavation** / **fill**;

   c) the extent of all **excavation** / **fill** batters;

   d) the location and heights of retaining walls and other structures for retaining soil;

   e) location of trees to be retained and finished levels within the dripline of trees.

5. Site Drainage Plan – A Site Drainage Plan may be required for larger or more complex projects. The Site Drainage Plan identifies:

   a) proposed contours and spot levels at critical locations such as inlet and outlet points;

   b) strategy for managing stormwater on the site including any **water sensitive urban design** landscaping measure;

   c) direction of flow;

   d) location and details of drainage infrastructure;

   e) where landscaping is to be carried out above a basement, podium roof or other upper level, the means of drainage.

B9.2.4 Landscape Plan prior to issue of a Construction Certificate

Where a condition in a development consent requires a Landscape Plan to be submitted and approved prior to issue of a Construction Certificate for building works, the following documentation is required:

1. A 'Detailed Landscape Design Plan' (drawn at an appropriate scale, e.g. 1:100 or 1:200) prepared by a suitably qualified landscape architect or landscape designer that includes:

   a) name, qualifications and contact details of the person who prepared the plan;

   b) North point;

   c) scale bar;

   d) legend;

   e) site boundaries;

f) dimensions;

g) location, spread and botanical name of existing trees/ other vegetation to be removed and retained in accordance with the Landscape Plan approved with the development consent;

h) measures to be taken to protect vegetation during construction works;

i) all proposed buildings and structures e.g. pathways, retaining walls, fences, roads, driveways, driveway kerb crossovers, water features;

j) all proposed surface finishes e.g. areas of concrete, paving, bitumen, gravel, garden beds, mown turf;

k) details of proposed edging treatment to garden beds;

l) car parking spaces, in accordance with plans approved with the development consent;

m) vehicle barriers, bollards, wheel stops;

n) location and details of seating, bins, lighting, furniture, balustrades;

o) proposed materials and height of fences;

p) location and depth of planter boxes on **balconies**;

q) location of taps and/or irrigation system;

r) typical landscape construction details.

2. A 'Detailed Planting Plan' (drawn at an appropriate scale, eg 1:100 or 1:200) that includes:

a) name, qualifications and contact details of the person who prepared the plan;

b) North point;

c) scale bar;

d) legend;

e) site boundaries.

f) location, spread and botanical name of existing trees/ other vegetation to be removed and retained, in accordance with the Landscape Plan approved with the development consent;

g) layout and spacing of all plants, with each species clearly labelled;

h) a 'Plant Schedule' that lists:

i) the Botanical Name and Common Name of all plants, sorted under the headings: Trees, Shrubs, Groundcovers;

ii) quantity of each species;

iii) pot/ container sizes;

i) specifications for imported topsoil, mulch, fertiliser application at time of planting;

j) section details of proposed planting method and staking;

k) details of maintenance period and program.

B9.3 General Landscaping Principles

B9.3.1 General Landscape Design Principles

Objectives

1. *To specify the general principles that apply to landscape design associated with development in Byron Shire.*

Performance Criteria

Landscape Plans and supporting information must demonstrate that the proposed landscaping will be consistent with the following general principles:

1. Landscape design for crime prevention and safety

   Landscape design must comply with the requirements of Chapter B11 Planning for Crime Prevention, and must minimise the potential for crime and vandalism.

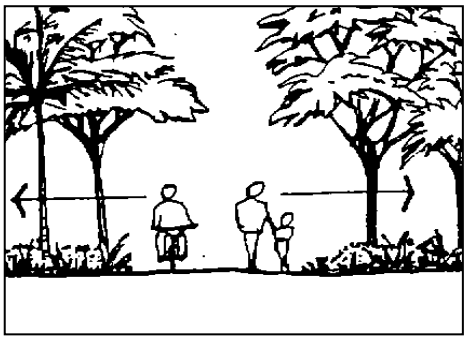


Figure B9.1 – Planting maintains sightlines into public areas for safety.

2. Landscaping not to interfere with utilities and services

   Landscaping and planting must not interfere with the function and accessibility of underground or overhead services and facilities, including inspections pits/ meters.

3. Landscaping not to interfere with the structural integrity of buildings and structures

   a) Trees must not be planted within 3 metres of any building.

   b) When placing trees in the landscape, consideration must be given to the size and spread of the tree when it is mature. Ensure that trees have adequate space for their branches and roots to grow without interfering with building eaves, walls, concrete slabs, foundations, driveways, paths, retaining walls or other built structures.

4. Landscaping conserves and improves natural resources and biodiversity

   Site and landscape design must:

   a) retain and protect existing significant native vegetation on the site wherever possible;

   b) retain any trees or other vegetation of cultural or heritage significance;

c) incorporate the retention of existing mature trees (with the exception of weed species) into the landscape design wherever possible;

d) utilise plant species **locally indigenous** to the area (and preferably) sourced from the local area, in preference to exotic plant material, wherever practicable;

e) Ensure that weed species are removed from the site and are not used in the landscape design;

f) Incorporate compensatory plantings whenever significant native vegetation is removed or damaged;

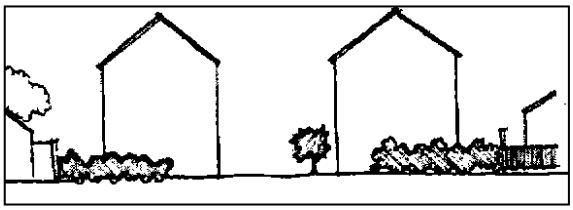
g) on larger land parcels, incorporate bushland restoration/ regeneration works in strategic areas to consolidate naturally occurring plant communities and assist in the remediation of damaged lands.

5. Landscaping reinforces local character, identity and sense of place

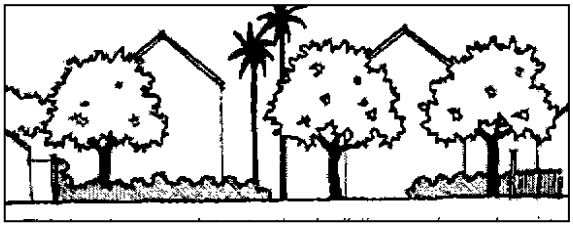
Where a street or a locality has a specific character derived from existing vegetation, similar or compatible species are planted on the site (except where the existing species are undesirable weed species).

6. Landscaping contributes positively to streetscape amenity and helps to integrate the development into the existing landscape setting

Landscaping must endeavour to soften the harsh visual effect of extensive areas of hard-surfacing, such as the cumulative effect of building walls, car parking areas and pavements. The height of plants selected must relate to the scale of the building(s), helping to visually break up hard surfaces and providing a balance between built and natural forms when the development is viewed from adjoining public streets or neighbouring properties.



***Note**: This landscaping does not relate well to the building scale.*



***Note:** This landscape relates to the building scale and assists integration of the building into the street.*

Figure B9.2 – Landscaping relative to building scale

7. Plant species are selected for long-term survival, minimal maintenance and visual interest

Plant species used in landscaping must:

a) be suited to prevailing site conditions (such as soil characteristics, sun, shade, wind, rainfall and drainage regimes) and require minimal maintenance;

b) be hardy and long-lived;

c) be predominantly **locally indigenous** species (sourced from the local area wherever practicable), in preference to exotic plant species;

d) provide on-going visual interest through form, colour, texture, floral display and the like.

8. Landscaping improves the microclimate in and around buildings and enhances the function of outdoor living spaces

Landscaping must provide year-round shade, shelter and amenity to outdoor living areas and help to define the function of different outdoor spaces.

9. Landscaping of public and semi-public areas provides clearly defined pedestrian pathways and assists with way-finding

The landscape design of public areas and semi-public spaces such as car parking areas and the frontages of commercial and industrial buildings must incorporate:

a) pedestrian pathways that have a different surface finish to, and are clearly differentiated from, driveways and vehicular movement areas;

b) planting or other design elements that help drivers and pedestrians locate the main entry/ exit points into the site;

c) planting or other design elements that assist pedestrians find their way around the development safely and locate the main entry/exit points into the building(s).

10. Adequate landscape buffers are provided between incompatible landuses

Where the proposed development has the potential to impact upon the amenity of adjoining development, vegetative buffers are required to provide dense screening along the boundary of the proposed development.

11. Landscaping complies with bushfire protection requirements

Where the proposed development is located on land mapped as **Bushfire Prone Land**, landscaping around proposed buildings must comply with the current legislative requirements of the *Rural Fires Act, 1997* in regards to measures required to protect the proposed development from bushfires.

Further standards for landscape design specific to different types of development (e.g. **multi-dwelling housing**, business or industrial development) are included in the relevant Sections below.

Prescriptive Measures
There are no Prescriptive Measures.

B9.4 Multi Dwelling Housing, Attached Dwellings and Residential Flat Buildings

B9.4.1 Landscape Principles

Objectives

1. *To ensure a high quality landscape and aesthetic environment for **multi dwelling housing**, **attached dwellings** and **residential flat buildings**.*

Performance Criteria

Multi dwelling housing, **attached dwellings** and **residential flat buildings** shall provide a high quality landscape that seeks to enhance the amenity and function of the development and provide a pleasant environment for residents that supports their physical and psychological well-being.

Prescriptive Measures

1. The following design requirements apply to **multi dwelling housing**, **attached dwellings** and **residential flat buildings** developments:

   a) retention of suitable existing vegetation;

   b) screen planting to street frontages and driveway areas, to provide privacy between **dwelling houses** and around the boundaries of the **site**;

   c) provision of pleasant landscaped settings for the enjoyment of residents;

   d) planting selection that relates to building scale and mass.

2. The **common landscaped area** of the **site** must not be less than the total of the areas required for each **dwelling house**, calculated from the following table, less the total of the areas of approved private courtyards and approved private open space balconies in accordance with Chapter D1 Residential Accommodation in Urban, Village and Special Purpose Zones.

Table B9.1 – Dwelling Size to Landscape Area

Dwelling[D] Size	**Landscaped Area[D]**
Small (under 55 m^2 in floor plan area[D])	50 m^2
Medium (55-85 m^2 in floor plan area[D])	70 m^2
Large (over 85 m^2 in floor plan area[D])	90 m^2

B9.4.2 Common Landscaped Area

Objectives

1. *To ensure appropriate treatment of **common landscaped areas**.*

Performance Criteria

1. Landscaped areas and landscaping must be considered as components of the site planning process and must reflect the scale of development.

2. Landscaping must complement existing streetscapes, urban landscape and bushland, and must be in scale with the height and bulk of buildings. Landscaping must be sensitive to site attributes such as existing landscape features, streetscape, ecology, land capability, micro-climate, views and vistas.

3. Development must be designed to maximise the number of trees retained on the site.

Prescriptive Measures

1. The **common landscaped area** of the **site** must be in accordance with Section B9.4.1.

2. A minimum of 75% of the total **common landscaped area** of the site must consist of **deep soil areas**. Areas of landscaping over underground car parks, and the like, cannot be included in the calculation of **deep soil areas**.

3. The landscape design must address:

   a) the retention and provision of appropriate trees on the **site**;

   b) the use of earth mounding and terraced areas to create useful and visually pleasing recreation areas and to assist screening;

   c) the orientation of landscape areas with regard to sunlight and prevailing winds;

   d) the provision of sufficient areas adequately shaded against the summer sun and giving adequate access to the winter sun.

4. Areas used for the management of on-site sewage effluent must be excluded from calculations of the **common landscaped area**.

B9.5 Dual Occupancies and Semi Detached Dwellings

B9.5.1 Landscape Principles

Objectives

1. *To ensure a high quality landscape and aesthetic environment for **dual occupancies**, and **semi detached dwellings**.*

Performance Criteria

Dual occupancies and **semi detached dwellings** shall provide a high quality landscape that seeks to enhance the amenity and function of the development and provide a pleasant environment for residents that supports their physical and psychological well-being.

Prescriptive Measures

1. The following design requirements apply to **dual occupancies**, and **semi detached dwellings** developments:

   a) retention of suitable existing vegetation;

   b) screen planting to street frontages and driveway areas, to provide privacy between **dwelling houses** and around the boundaries of the **site**;

   c) provision of pleasant landscaped settings for the enjoyment of residents;

   d) planting selection that relates to building scale and mass.

2. Each **dwelling** must have a **minimum landscaped area** of 90m2, excluding any area used for vehicle circulation or parking. At least 25% of the site must consist of **deep soil areas**.

B9.6 Tourist and Visitor Accommodation, Caravan Parks, Camping Grounds and Eco-tourist Facilities

B9.6.1 Landscaping of Tourist and Visitor Accommodation (excluding bed and breakfast and farmstay accommodation)

Objectives

1. *To ensure that **tourist and visitor accommodation** (excluding **farmstay** and **bed and breakfast**) provide useable outdoor areas that improve the amenity of the locality and visual appearance of the development.*

Performance Criteria

The following design guidelines apply to **tourist and visitor accommodation** (excluding **farmstay** and **bed and breakfast**):

a) retention of suitable existing vegetation;

b) creation of a pleasant landscaped environment for customers;

c) planting selection which can endure an intensively used environment;

d) planting selection which relates to building proportions;

e) embellishment and landscaping of the street and footpath area to integrate the development with the pedestrian network and to provide shade. (See B9.11.1)

Prescriptive Measures`

1. A minimum 10% of the **site area** must be dedicated to landscaping of **tourist and visitor accommodation** developments (excluding **farmstay** and **bed and breakfast**). **Landscaped areas** can be used for pedestrian access provided porous paving is utilised.

2. Screen and shade planting to car parking and driveway areas as required under B9.8.1 Screening is also required to visually obtrusive facades of the building. For effective landscaping a minimum garden bed width of 2 metres may be required for the front boundary (this will not be appropriate for all design layouts).

B9.6.2 Landscaping of Caravan Parks, Camping Grounds and Eco-tourist Facilities

Objectives

1. *To ensure that **caravan parks** and **camping grounds** provide useable outdoor areas that improve the amenity of the locality and visual appearance of the development.*

2. *To ensure that **eco-tourist facilities** blend into their natural setting with minimal impact, while still providing a landscaped environment that improves the biodiversity of the locality without exacerbating bushfire risk.*

Performance Criteria

1. The following design guidelines apply to **camping grounds** and **caravan parks**:

   a) retention of suitable existing vegetation;

   b) creation of a pleasant landscaped environment for customers;

   c) planting selection which can endure an intensively used environment;

   d) planting selection which relates to building proportions;

   e) landscaping that provides for privacy balanced with crime prevention;

   f) landscaping that is responsive to bushfire hazards.

2. The following design guidelines apply to **eco-tourist facilities**:

   a) retention of suitable existing vegetation;

   b) landscaping that minimises visual impacts of the development;

   c) landscaping that minimises bushfire hazard;

   d) planting selection that is **locally indigenous** to locality and improves biodiversity where possible.

Prescriptive Measures

There are no Prescriptive Measures.

B9.7 Commercial and Retail Development

Objectives

1. *To enhance the built form of commercial and retail areas.*

Performance Criteria

1. Retain existing vegetation where appropriate;

2. Where possible, provide street trees and/or plantings;

3. For stand-alone large scale retail or commercial development, provide suitable landscaping to visually soften the hard stand features of the built environment.

Prescriptive Measures

For stand-alone large scale retail or commercial development, a minimum 10% of the site area must be dedicated to landscaping.

B9.8 Industrial Development

B9.8.1 Industrial Landscaping

Objectives

1. *To enhance the appearance, climatic conditions and character of industrial areas.*

Performance Criteria

Industrial development is potentially the most visually unattractive form of development in the Shire, particularly due to building type, use and size. Effective landscaping can reduce the visual impacts of such development and create a unifying element in the streetscape.

The following criteria apply to industrial developments:

a) Screen planting at the rear and sides of industrial buildings, particularly where the development is located on the edge of industrial areas and abuts non-industrial lands;

b) Retention of suitable existing vegetation;

c) Screen planting to street frontages, adjacent to car parking and driveway areas, around the boundaries of the **site** and to visually intrusive facades of the building;

d) Planting selection and design which is low maintenance and can endure an intensively used environment;

e) Planting selection which relates to building scale and mass;

f) Minimal use of concrete in **landscaped areas**;

g) Use porous paving where appropriate.

Prescriptive Measures

The following design criteria apply to industrial developments:

1. For effective landscaping a minimum garden bed width of 2 metres is required for the front boundary. The garden bed must contain low shrubs and ground covers and clear trunked canopy shade trees with a minimum spacing of 6m between each tree;

2. At least 80% of the planting of industrial sites is to be at the front of the **site**.

B9.9 Car Parking and Open Storage Areas

B9.9.1 Landscaping Of Car Parking and Open Storage Areas

Objectives

1. *To enhance the built form, provide shade and assist in screening car parking and open storage areas.*

Performance Criteria

1. Planting in **car parks** reduces the harsh visual effect created by open concrete and asphalt areas and provides shade and wind protection. The landscape design should be an integral part of **car park** design and layout. The design can incorporate shade

tree planting throughout the **car park** and dense planting, mounding, walling and fencing on boundaries to provide screening.

Figure B9.3 – Landscaping breaks up the hard stand/car park area

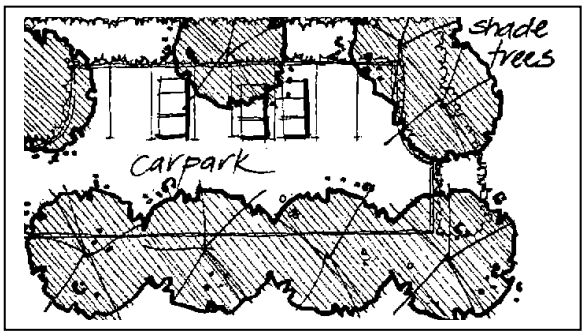


Figure B9.4 – Planting in car parks

Prescriptive Measures

1. In commercial and industrial parking areas and in open storage areas, shade trees shall:

   a) be provided at the rate of 1 tree to shade every 2-5 parking spaces and aim to provide adequate shade cover after five (5) years or less;

   b) have high spreading branches;

   c) have a low attraction to bird species;

   d) be provided in garden beds of minimum width 2m.

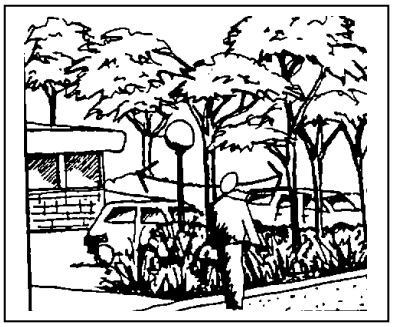


Figure B9.5 – Planting of commercial and industrial car parks

2. Use smooth-barked trees, shrubs to 1m and ground covers for maximum visibility and surveillance.

3. The following design guidelines apply to **car parks**:

   a) retention of suitable existing vegetation;

   b) screen planting to street frontages and around the boundaries of the **site**;

   c) buffer planting to adjacent land uses;

   d) planting of shade trees throughout the **car park** (landscape works in the **car park** should aim to provide adequate shade cover after 5 years);

   e) Shade trees are to be selected on the basis of those species which are not prone to limb drop or other risks that may cause damage to cars;

   f) separation and definition of pedestrian and vehicular circulation routes;

   g) for effective landscaping, a minimum garden bed width of 2 metres is required for the front boundary;

   h) use of porous paving for parking bays and driveways where appropriate.

B9.10 Cycleways, Pedestrian Routes, Drainage and Watercourses

B9.10.1 Landscaping of Cycleways and Pedestrian Routes

Objectives

1. *To maximise natural characteristics and promote safety within cycleways and pedestrian routes.*

Performance Criteria

There are no Performance Criteria.

Prescriptive Measures

1. Landscaping along pedestrian and cycle routes shall consist of clear trunked trees, shrubs to 1 metre height and groundcovers to allow for maximum visibility and surveillance.

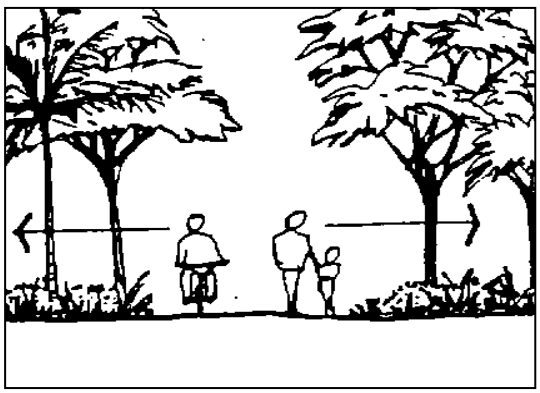


Figure B9.6 – Surveillance for pedestrians and cyclists to provide security

B9.10.2 Drainage and Watercourses

Objectives

1. *To promote ecological diversity and to maximise aesthetic values of drainage lines and watercourses.*

Performance Criteria

1. The natural vegetation associated with rivers, streams and creeks forms the riverine and creek community. This vegetation can provide vital corridors for fauna and genetic links between remnant patches of forest. It also assists in maintaining high water quality and stream stability values.

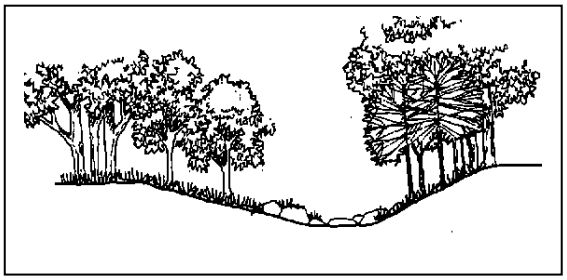


Figure B9.7 – Example of Natural vegetation alongside watercourses

2. Development adjacent to rivers and creeks can degrade the function of these communities and careful landscape design is warranted. Planting should consist of **locally indigenous** species to reinforce ecological functions, and be tolerant of occasional inundation. It is important not to plant weed species along waterways as the river system will further distribute the unwanted species.

3. The following landscape design principles apply to areas adjoining watercourses and drainage lines:

   a) retention of suitable existing vegetation;

   b) rehabilitation of degraded areas and removal of weed infestation;

   c) replanting of species which are indigenous to the area, tolerant of possible inundation and not likely to cause a weed problem;

   d) landscape solutions for drainage lines, particularly in urban areas, which promote:

      i. the utilisation of natural materials and natural feature solutions as an alternative to traditionally hard and unattractive open concrete drains;

      ii. integration of engineering and landscape solutions for stormwater management;

      iii. on steep land, swales and contour banks to reduce the detrimental effects of overland flow.

Prescriptive Measures

There are no Prescriptive Measures.

Figure B9.8 – Example of drainage line that encourages the use of natural materials.
Note: *Planting species should be tolerant of inundation and not likely to create a weed problem.*

B9.11 Street Trees in Subdivision and Developments

Street trees contribute to the identity of the Shire through the provision of pleasant streetscapes and planting themes. The character or theme in residential and commercial areas can be enhanced by the selection of street trees.

B9.11.1 Design and Selection of Street Trees

Objectives

1. *To promote ecological diversity and landscape character in the Shire's streets.*

Performance Criteria

1. Native species, (preferably **locally indigenous** species), must be used as street trees in association with subdivision and development to preserve and enhance the natural character of the Shire. In addition, the retention and featuring of existing vegetation within the road reserve may provide a suitable established landscaped streetscape. Careful consideration is required in the location and choice of street trees, with particular attention to:

   a) services and infrastructure (both underground and overhead),

   b) sight lines at intersections, and

   c) pedestrian and cycleway movements.

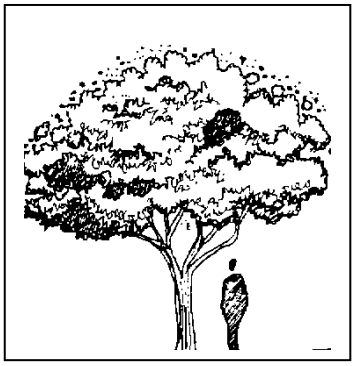


Figure B9.9 – Street trees that allow pedestrian movement

2. For **multi dwelling housing**, **attached dwellings**, **residential flat buildings** and commercial development the embellishment of the road reserve with street trees will be considered on merit and dependant upon existing street trees, width of the road frontage and size of the development. The Landscape Concept Plan prepared for the development needs to consider street trees and other landscaping of the road reserve as an integral part of the development.

3. The design of the planted area for street trees should encourage passive watering from the road and footpath surface and incorporate the principles of **water sensitive urban design**.

For design and technical guidelines refer to the Landcom Street Tree Design Guidelines available on the internet.

Prescriptive Measures

1. Street trees should be chosen for their:

   a) non-invasive root systems;

   b) good canopy spread and shade provision;

   c) mature height growth nature (under 10m in height)

   d) colour and appeal;

   e) low maintenance requirements;

   f) suitability for soil type and drainage conditions.

2. Street trees provided as part of a new development must be a minimum of 45 litres in size to provide an early established character to the development. In some circumstances the use of root barriers will be required when planting trees close to kerbs, buildings and other structures under the possible threat of root damage.

3. A minimum of one street tree per 15 metres of residential lot street frontage with a minimum canopy diameter of 8 metres at maturity to be provided for new subdivisions.

B9.12 Landscape Design Considerations

B9.12.1 Underground Car Parks

Objectives

1. *To prevent adverse visual impacts from ventilation shafts and grilles.*

Performance Criteria

Ventilation openings in underground car parking structures must be carefully integrated into the landscape. Ventilator shafts or grilles must be positioned so that they are screened from view, yet still function effectively.

Prescriptive Measures

There are no Prescriptive Measures.

B9.12.2 Roof Decks and Balconies

Objectives

1. To enhance the visual amenity and appearance of rooftops and balconies.

Performance Criteria

1. Rooftop and **balcony** planting (or vertical landscaping) is to be used on the upper levels of higher buildings to:

   a) promote a more attractive facade for multi-level buildings;

   b) soften the bulk of the building;

   c) graduate the height of the building with planting;

   d) increase privacy between upper level balconies and **dwelling houses**;

   e) provide a subtropical ambience for buildings.

2. Where planter bays or landscape beds are proposed applicants are directed to the minimum landscaping provisions under the Residential Design Flat Code (Planning NSW) – Planting on Structures for depth and dimensions of planter bays and volume of soil required.

3. Roof decks must be so designed and constructed as to be structurally capable of carrying a sufficient volume of topsoil to allow development of a planting program integrated with landscape development on other parts of the **site**.

Prescriptive Measures

There are no Prescriptive Measures.

B9.12.3 Climate and Microclimate

Objectives

*1. To ensure that the design of developments and **landscaped areas** addresses the climatic characteristics of the area and the microclimate of the **site**.*

Performance Criteria

1. Landscaping should be designed to enhance and reinforce positive climatic influences and minimise the impact of adverse climatic features.

2. A site's microclimate is directly affected by a combination of the prevailing climatic conditions, the site's aspect (i.e. the direction it faces), the topography, the vegetation and the structures. With due consideration to the prevailing weather conditions, landscaping can effectively control climatic impacts on buildings and outdoor spaces.

   Microclimate control aspects of landscaping must be designed to maximise the opportunity to create a comfortable environment. Landscape design must take into account the placement of evergreen and deciduous species to ensure winter sun penetration and summer shade to buildings and outdoor open space/ recreation areas. In particular:

a) consider shade and canopy spread of trees when locating planting in design;

b) deciduous vegetation to the north of the block provides summer shade and allows winter sun;

c) vegetation on the western side of the block assists in control of afternoon sun;

d) evergreen vegetation should be planted on the eastern, western and southern sides of the block to provide summer shade and to deflect cold winter winds.

Prescriptive Measures
In summer the western elevations of buildings should be protected from the afternoon sun with trees of suitable mature height.

B9.12.4 Existing Vegetation

Objectives

1. *To promote ecological sustainability and to optimise aesthetic character by maximising retention of existing vegetation.*

Performance Criteria

1. Landscaping should retain, protect and enhance existing natural vegetation.

2. Vegetation retention must be considered at the initial stages of development design. Buildings, roads, parkland, or other components of a development must be located to retain maximum vegetation on a **site**. Design intent is important in the protection of significant vegetation.

3. Maximum advantage should be taken of existing mature trees and shrubs on the **site** and these should be incorporated into the overall landscape strategy. The retention of vegetation on a development **site** adds an "established" effect and an immediate vertical dimension to the design. Existing vegetation also assists in the retention of the natural character of the Shire and has ecological benefits. In addition, existing vegetation on a **site** may be significant for historical, aesthetic or environmental reasons and may be required to be retained by Council provisions.

4. Provision must be made in the design for the protection of existing vegetation during construction works – for example, fencing barriers and appropriate signage should be provided. Particular effort must be made to protect the root zone of those trees to be retained, by avoiding compaction of this area by construction vehicles, and by ensuring that any stockpiling of materials occurs well away from the drip line of the tree.

5. The effective use of vegetation on a **site** can also substantially reduce the landscaping costs of a development and should be considered in the design process.

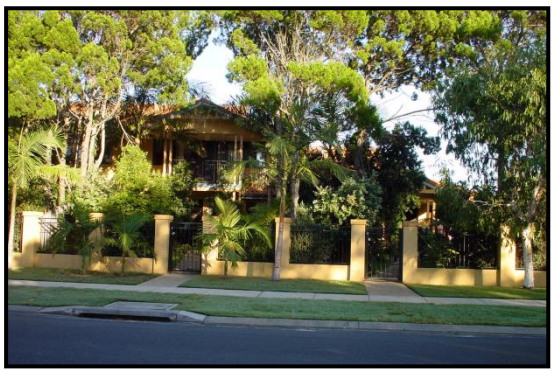


Figure B9.10 – Retention of suitable vegetation is encouraged

Prescriptive Measures
There are no Prescriptive Measures.

B9.12.5 Planting Size, Density and Species

Objectives

1. *To ensure that landscape and planting design is compatible with the scale and character of the proposed development.*
2. *To ensure that the density of landscaping and planting is compatible with the long term and short term character of the proposed development.*
3. *To promote a landscape character in the Shire which is based on **locally indigenous** plant species and the natural, subtropical environment of the area.*
4. *To promote sustainability through the provision of edible species in appropriate locations.*

Performance Criteria

1. The selected planting size, density and species is dependent upon a number of factors, including the scale and nature of the project, availability of planting stock and particular requirements specified in conditions in a development consent. In many cases follow-up planting is advantageous once initial planting is established.
2. The landscape plan needs to address size, density and species composition consistent with best practice landscape architecture or landscape design principles.

Prescriptive Measures

1. The following planting sizes are the minimum required to achieve an initial impact in the landscape design:

   a) street and feature trees: 45 litre minimum
   b) trees: 300mm minimum pot size
   c) large shrubs: 200mm minimum pot size
   d) groundcovers: 140mm minimum pot size

2. A minimum of 90% of all plants used shall be **locally indigenous**. These species are listed in the Native Species Planting Guide to Byron Shire which can be found on Council's website.

3. No species listed as undesirable in Chapter B2 Preservation of Trees and Other Vegetation shall be used in landscaping on any **site**.

4. Species listed as threatened species under the *Threatened Species Conservation Act 1995* should not be used for landscaping purposes unless the genetic provenance can be demonstrated in terms of locally sourced seed stock.

5. In new developments, consideration will be given to the provision of dedicated areas for the growing of vegetables, fruit trees and other edible species as part of the landscaped areas.

B9.13 Landscape Works and Maintenance

B9.13.1 Landscape Construction Works

Objectives

1. *To ensure the viability and survival of landscape and planting works.*
2. *To ensure survival and ongoing functioning of landscaping and planting.*

Performance Criteria

Landscape areas shall be constructed and maintained in accordance with best practice landscape architecture or landscape design principles.

Prescriptive Measures

There are no Prescriptive Measures.