

Planning Scheme Policy Integrated Design



Contents

- Adoption..... 2
- Commencement 2
- 1. Introduction 2
 - 1.1 Purpose 2
 - 1.2 Application 2
 - 1.3 Interpretation..... 2
- HOW TO USE THIS POLICY? 3
- 2. How to Use This Policy..... 4
- 6 STEPS TO DESIGN EXCELLENCE 6
- 3. Six Steps to Design Excellence..... 7
 - 3.1 Step 1 - Get to know Council’s Policy Led Design Visions 8
 - 3.2 Step 2 - Design Guidelines Specific to MBRC 10
 - 3.3 Step 3 - Current Best Design Practice Used by MBRC 11
 - 3.4 Step 4 - Designing for User Needs - A Checklist 12
 - 3.5 Step 5 - Access and Urban Design Statement..... 13
 - 3.6 Step 6 - Prepare and Submit Design Drawings..... 14
- 4. Principles of Integrated Design..... 16
 - 4.1 Introduction 16
 - 4.2 Goals and Principles..... 18
- 5. Streets, Roads and Utilities 21
 - 5.1 Introduction 21
 - 5.2 A Permeable and Connected Network 22
 - 5.3 Context Sensitive Design Solutions 27
- 6. Open and Civic Space Design..... 32
 - 6.1 Introduction 32
 - 6.2 Design Principles..... 33
- 7. Stormwater Management 38
 - 7.1 Design Evolution and Integration..... 38
 - 7.2 Design Principles..... 39
- 8. Landscape Design & Street Trees 43
 - 8.1 Trees for Streets, Roads and Places 43
 - 8.2 Landscape design 45

Adoption

MBRC adopted this planning scheme policy on 24 November 2015.

Commencement

This planning scheme policy will take effect from 1 February 2016.

1. Introduction

This policy supports the Morton Bay Regional Council Planning Scheme and has been made by Council in accordance with Chapter 3, Part 4, Division 2 and Part 5, Division 1 of the *Sustainable Planning Act 2009*.

1.1 Purpose

The purpose of this planning scheme policy is to:

- (a) Identify the roads and streets, public spaces, and landscaping standards and associated infrastructure design standards for development expected within the Region;
- (b) Provide information Council may request for a development application;
- (c) Provide guidance or advice on satisfying assessment criteria which identifies this planning scheme policy for that purpose.

Note: Where the information required by this policy is not supplied when the development application is made, they will be subject to an information request under the Integrated Development Assessment System (IDAS).

1.2 Application

The planning scheme policy applies to development applications for material change of use, reconfiguring a lot or operational works.

1.3 Interpretation

Terms used in this planning scheme policy are defined in Schedule 1 – Definitions of the planning scheme. Where a term is not defined in Schedule 1, section 1.3 *Interpretation of the Planning Scheme* applies.



2. How to Use This Policy

The policy outlines Moreton Bay Regional Council's standards for the planning and design of streets, roads, private and public spaces within the Moreton Bay Region.

Technical standards and guidelines have a key role in the delivery of good design, but, when used over prescriptively, they often compromise the achievement of wider objectives and good integrated design outcomes.

Designers are expected to use their professional judgement when designing projects and should not be over reliant on guidance. Available guidance, warrants and standards cannot be expected to cover the conditions and circumstances that apply to each individual project which will have its unique set of conditions.

Alternative innovative solutions which meet the strategic vision of the Moreton Bay Regional Council Planning Scheme Strategic Framework and infrastructure strategies are therefore encouraged.



The mark of a great region is not how they design their special streets and public spaces, but rather how they design their everyday streets and public spaces. They are fundamental elements that underpin our communities through the provision of "public spaces" which afford opportunities for informal, formal, social and economic exchange. Essentially, they become the stages of the built environment on which everyday life unfolds.

These "public spaces" need to be carefully designed and managed to ensure that access to both public and private spaces meets the complex place making and functions required by our modern infrastructure networks. They can no longer be designed to solely serve a single unction, rather they need to be designed as places that accommodate a variety of community, recreational and environmental pursuits and which foster a greater sense of community pride in place. Their design more importantly needs to deliver a product fit for its intended users and contextually respectful of surrounds and place within our environments.

The concept of movement and place is an important element in the design process. With streets and other public spaces “Place Design” is central to the process. Whilst higher order roads have a primary emphasis on movement, most roads also have many components of street and place functionality and should be designed in a context sensitive manner to reflect user needs.



Without a fundamental shift in design philosophy, our streets will continue to result in wide, high-speed environments that only move vehicles and compromise vital community goals and desires.

The design of this infrastructure plays an enormous role in determining the overall quality, atmosphere, form, function and ability to survive everyday rigours. Where the interface between public and private buildings and space is managed well and respectful of its surrounds, great roads and streets and desirable destinations are created that allow us to further build community capacity, ownership and resilience in our neighbourhoods and centres.

Our behaviour within streets and roads and is particularly influenced as , as barren and wide streets tend to reinforce the desire for motorists to speed, while tree lined streets, activated with on-site car parking and incorporating active transportation opportunities, promote a desire to slow down providing a safer and more pleasant experience for all users.



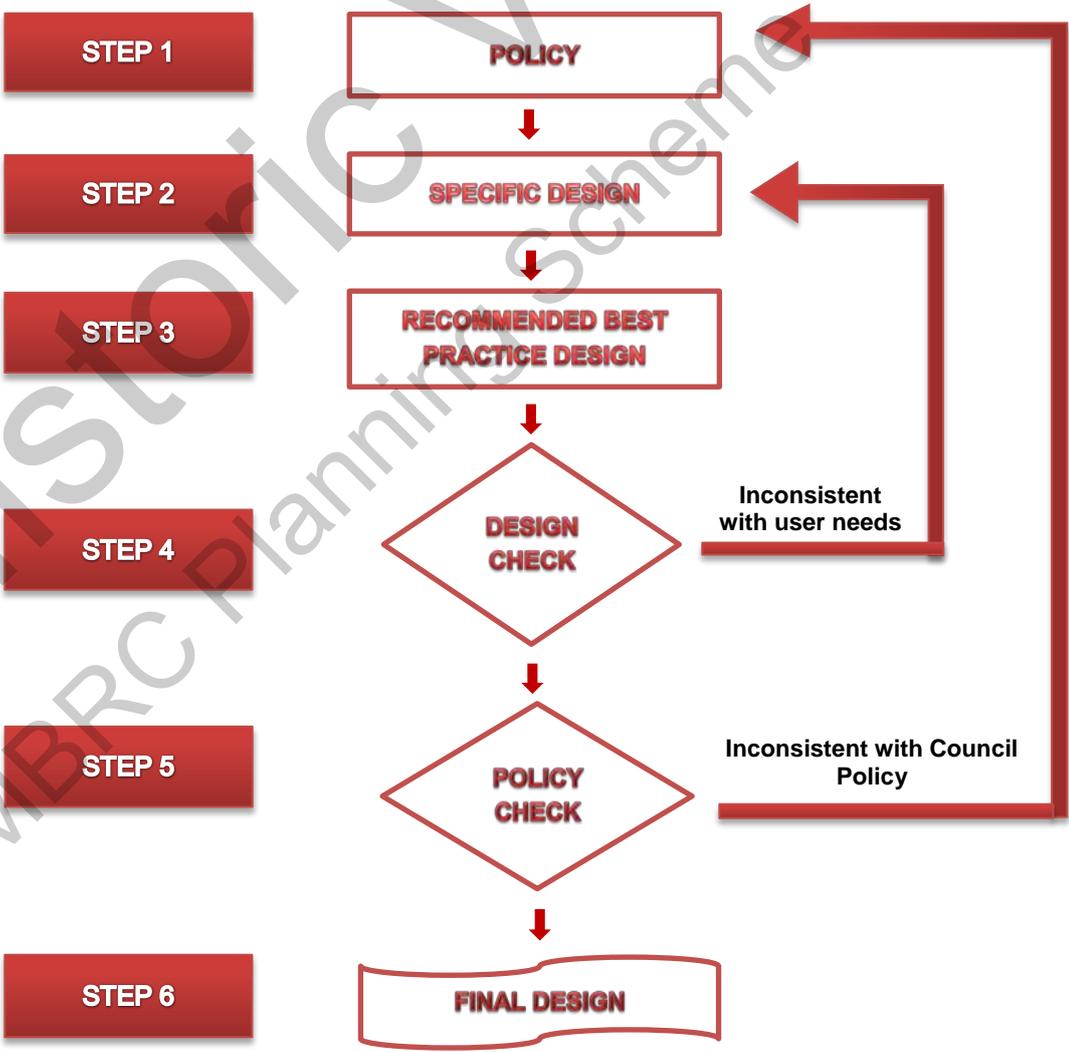
6 STEPS TO DESIGN
EXCELLENCE

END
SHARED
ZONE



3. Six Steps to Design Excellence

1. Get to know Council's Vision, Goals and Urban Design Principles [Step 1](#)
2. Design Criteria specific to MBRC: [Step 2](#)
 - a. Design integration
 - b. Streets, roads and utilities
 - c. Open and civic space design
 - d. Stormwater management
 - e. Landscaping design & street trees
3. Current Best Planning and Design Practice used by MBRC [Step 3](#)
4. Designing for the User Checklist [Step 4](#)
5. Design and Access Statement – to ensure best practice, integration with contiguous land uses and context sensitive design [Step 5](#)
6. Prepare and submit final design drawings (certified by RPEQ) [Step 6](#)



3.1 Step 1 - Get to know Council's Policy Led Design Visions

The Moreton Bay Regional Council Strategic Framework has set a new vision for the region that will allow future generations to live, work and play within our unique, prosperous and growing region. At the heart of this vision is the desire for walkable communities that foster the creation of living streets and public spaces which actively encourage healthy lifestyles, economic prosperity and environmental stewardship. This new vision will allow Council to actively move away from the standardised, risk averse designs previously used..

To meet this challenge, our underperforming streets need to be transformed so that they no longer purely serve the needs of those confined to vehicles but rather provide space for all users in a safe environment that successfully integrates the built form of the private domain within the broader street environment. Without a fundamental shift in design philosophy, our streets will continue to result in wide, high-speed environments that only move vehicles whilst compromising vital community goals and desires.

There are seven Primary Policy Documents that Establish the Vision and are the policy basis for all project planning and design of streets and roads, stormwater management and open and civic spaces within Moreton Bay Region.

| | | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1 | <p>Moreton Bay Regional Council Planning Scheme Strategic Framework</p> <p>This document sets the context of our vision of creating diverse, connected and accessible places whilst accommodating significant growth.</p> |  |
| 2 | <p>Moreton Bay Regional Council Urban Design Charter</p> <p>This articulates the vision set in the Strategic Framework and identifies Nine Values for Good Place Design</p> |  |
| 3 | <p>International Charter for Walking</p> <p>Council is a signatory to the International Charter for Walking. This charter provides Council with a framework to refocus our policies, activities, planning and design to create a culture where people choose to walk.</p> |  |

4

Integrated Local Transport Strategy

Contains several key strategies that set the future direction of integration of transport and land use and contain valuable information on walking, cycling, public transport use and access and movement throughout the Moreton Bay Region.



5

Water Strategy

This plan articulates the importance of planning and designing for best practice water planning, design and management.



6

Open Space Strategy

The open space strategy is Council's primary reference document for the future provision and embellishment of parks and open spaces.



7

Community Infrastructure Strategy

The Community Infrastructure Strategy is Council's primary reference document for the future provision and embellishment of all community facilities such as community halls and libraries.



3.2 Step 2 - Design Guidelines Specific to MBRC

These design guidelines are based around current best practice that MBRC consider meets the values and principles of Council Policy and its future vision. The guidelines seek to integrate land use and infrastructure at all levels. Best practice design guidance may change from time to time so it is important that the designer has the most current set of guidelines for reference purposes.

MBRC has identified some design requirements that are specific to the Moreton Bay Region. These are included within these guidelines under the following headings:

- Section 4 - Principles of Integrated Design
- Section 5 – Streets, Roads and Utilities
- Section 6 - Open and Civic Space Design
- Section 7 – Stormwater Management
- Section 8 – Landscaping Design and Street Trees

The designer should refer to these MBRC specific elements of design first, before referring to general best practice design guidance in step 3.



3.3 Step 3 - Current Best Design Practice Used by MBRC

Moreton Bay Regional Council has adopted a number of primary design guideline documents that should be used as the key reference documents for project planning and design purposes. The project planner/designer should become familiar with these documents.

Appendix G outlines Moreton Bay Regional Council's best practice guidelines for design and construction of service infrastructure for new developments.

A development scheme may refer to a different guideline or specific response and propose alternative and innovative solutions in consultation with the MBRC and other relevant parties as appropriate.

The documents referenced in this guideline are the version current at the time a decision is made on a development application. MBRC may have regard to other documents in assessing development applications.



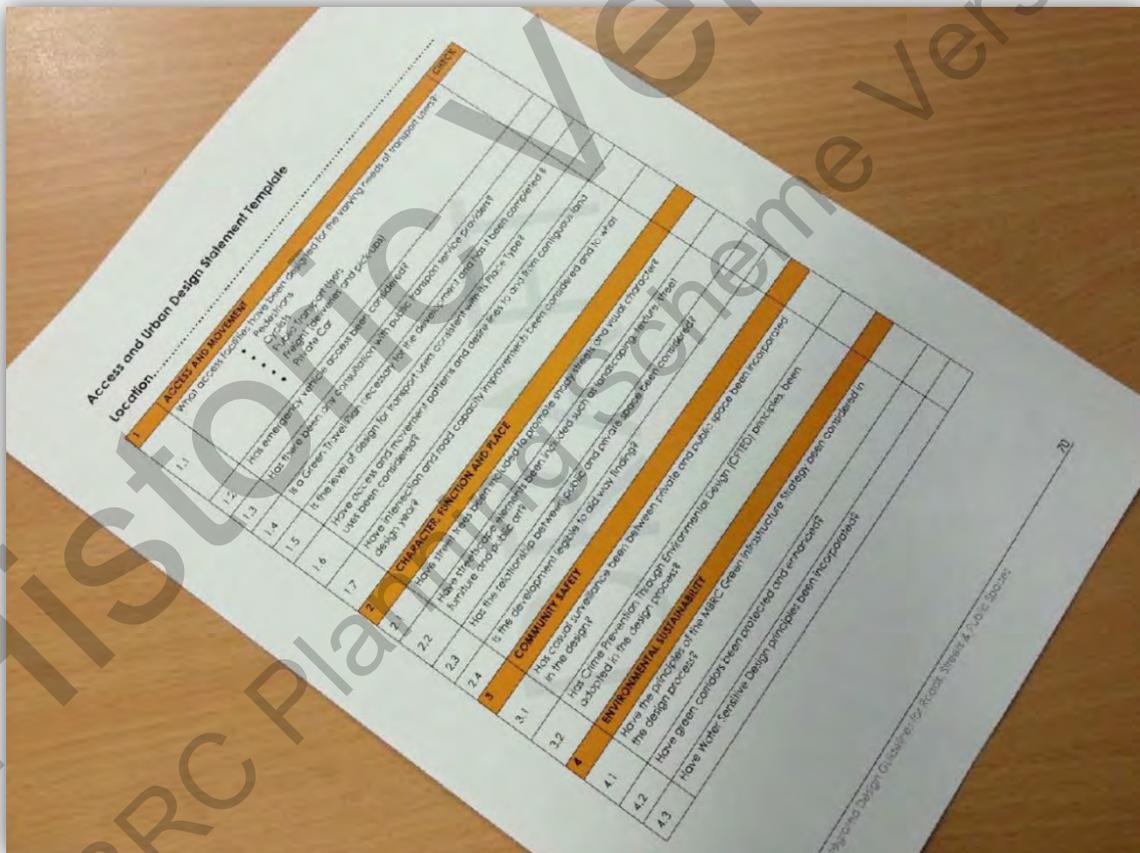
3.5 Step 5 - Access and Urban Design Statement

An Access and Urban Design Statement is a short report accompanying and supporting a development application and describing design intent and how the design is consistent with Council policies.

The length of the Statement should reflect the nature and complexity of the accompanying planning application. The main roles of the Statement are to:

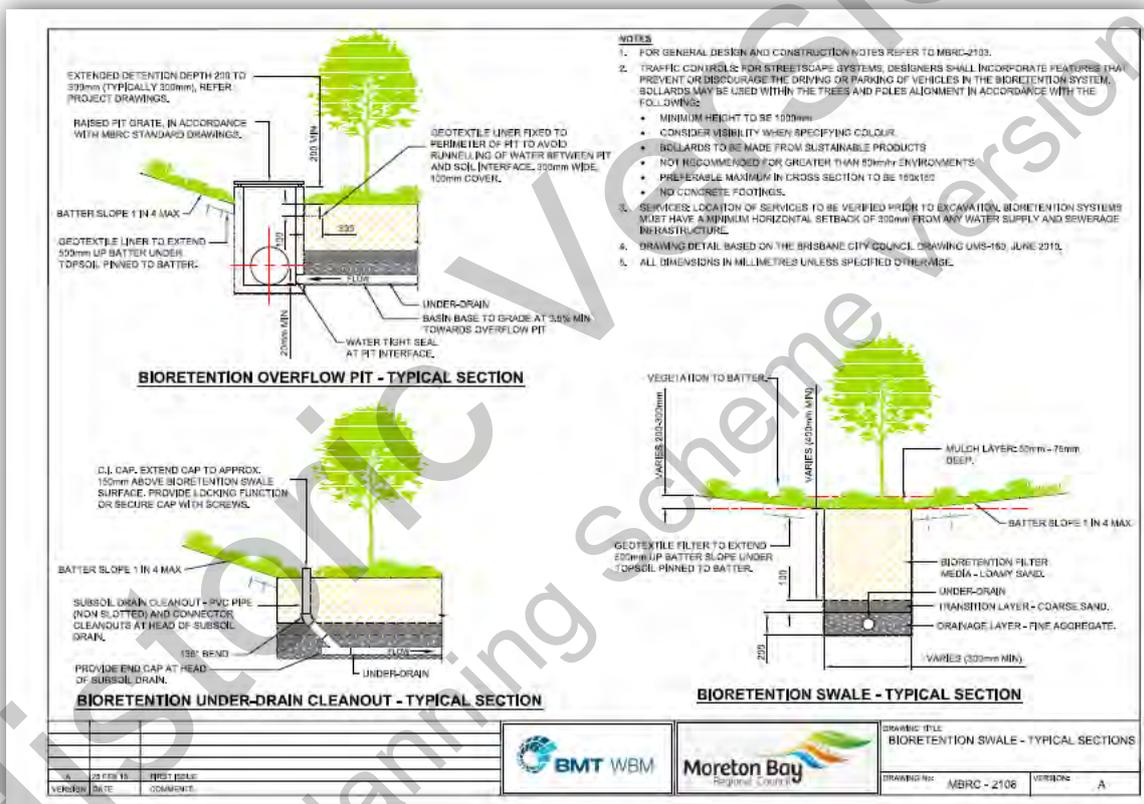
1. Ensure that the design is context sensitive to its Place Type and that MBRC's policies and values have been addressed.
2. Explain how the objectives of best practice design have been applied and existing and future user needs have been incorporated.
3. Illustrate how access needs have been designed and are responsive to contiguous land uses.

A Template for the completion of the Access and Urban Design Statement is attached as Appendix F.



3.6 Step 6 - Prepare and Submit Design Drawings

The range and quantity of detailed design drawings will vary depending upon the complexity of the design. All engineering drawings must be signed by a Registered Professional Engineer Queensland (RPEQ). In addition to the engineering drawings all landscaping, streetscaping and drawings containing trees within public spaces must also be signed by an RPEQ, and certified by a Registered Landscape Architect, to ensure that safety features such as sightlines and visibility splays have been assessed for consistency with relevant design standards. Landscaping drawings must therefore be submitted at the same time as the engineering drawings so that the design review person or team can be satisfied that all design elements have been considered in an integrated manner.





4. Principles of Integrated Design

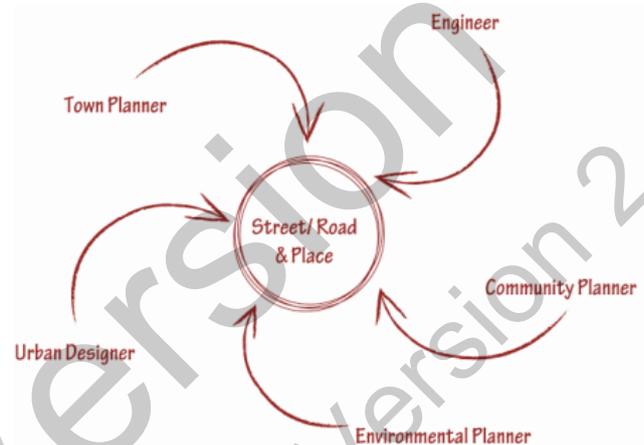
4.1 Introduction

The desire to create quality and durable places, networks and streetscapes requires an integrated approach to design outcomes. This considers context, place, the needs of all users and how various elements interact to create integrated and complete design outcomes.

The addition or subtraction of elements plays a pivotal role in a user's perception of streets and places and what constitutes appropriate behaviour when in these space.

Streets and roads, for example, can no longer be designed to solely serve the function of transportation, rather they need to be designed as "third places" able to accommodate a variety of community, recreational and environmental pursuits and deliver a greater sense of community pride.

A multi-disciplinary approach allows designers to move away from a rigid standards driven process that delivers an isolated infrastructure asset. This allows designers to explore more creative design responses that reflect the changing perspective of what these places could be. This integrated and complete approach allows spaces to be formed in such a manner that places a greater emphasis on the needs of all users.



"Streets are places that, by design and management, prioritise the movement needs of pedestrians, cyclists and public transit users, while providing settings for meeting the human needs for social interaction and community life.

They balance by design, the competing demands of form and function in ways that are thoughtful, practical, creative and people-oriented.

The streets of the region are places that people use, not just through necessity but by choice. They are places that they enjoy, where they feel engaged and safe, they are places that promote a connected, accessible, healthy and vital community lifestyle.

They are memorable places that celebrate the region's unique qualities, and promote and support the human need to be part of a community."



Streets include appropriate provision of shade for all users

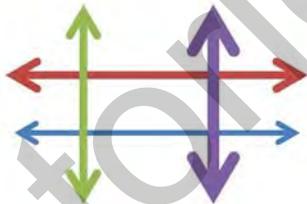
4.2 Goals and Principles

Five goals describe how streets and places will be expected to perform within Council's overall public space network. The principles outline how these five goals can be achieved through responsive and innovative design solutions.

These goals and principles articulate Council's desire to establish functional streets serving a network of places with character and quality design outcomes within our region.

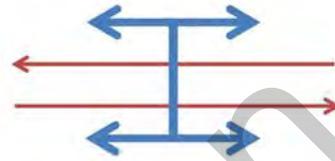
Ensuring that roads and streets, stormwater management and open and civic are designed and delivered in accordance with these goals and principles will help developers, designers and Council to contribute towards the creation of a coherent network of quality and meaningful public spaces throughout the Moreton Bay Region.

2. Distinctive Places



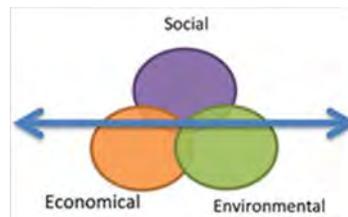
- Designs streets and public places as destinations of choice rather than purely infrastructure necessities.
- Create a definable image that celebrates the role that they play in producing vital and unique places.
- Explore and enhance the distinctive qualities of our region through thoughtful designs that are respectful of adjoining land uses, the environment and community.
- Design streets and public places as a visual experience that provides stimuli for all users.

1. Safe Places



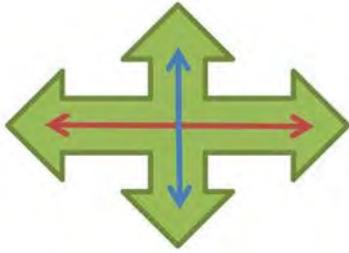
- Enhance the safety of all users through a legible and distinct multi-purpose network.
- Priorities the movements of vulnerable users (children, elderly and those with disabilities) and modes (pedestrian and cyclist) in a safe and balanced manner.
- Activate them as a communal space that is appreciated and inspires pride in place.
- Promote the use of Crime Prevention Through Environmental Design (CPTED) Principles in street design.

3. Liveable Places



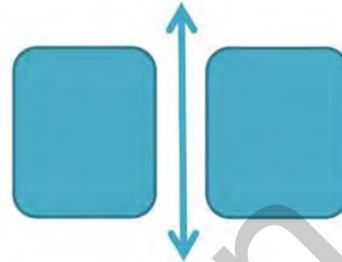
- Create streets and public places primarily for people through designs that actively provide opportunities for social and economic exchange.
- Design them to positively contribute to a strong relationship between buildings and spaces that frame them.
- Enhance the overall quality and amenity of streets through the provision of street trees, view/ vistas and public art.
- Create streets and public places that inspire an active and health lifestyle through the provision of safe and connected networks.

4. Connected & Accessible Places



- A. Create logical, connected, permeable, easily understood and well organised networks that avoid the use of cul-de-sacs and three way intersections.
- B. Maximise transportation choice by providing a totally connected pedestrian and cyclist network.
- C. Design streets and public places that contribute to a distinctive structure.
- D. Promote the use of universal design standards to create a clear, connected and unobstructed network for people of all needs.

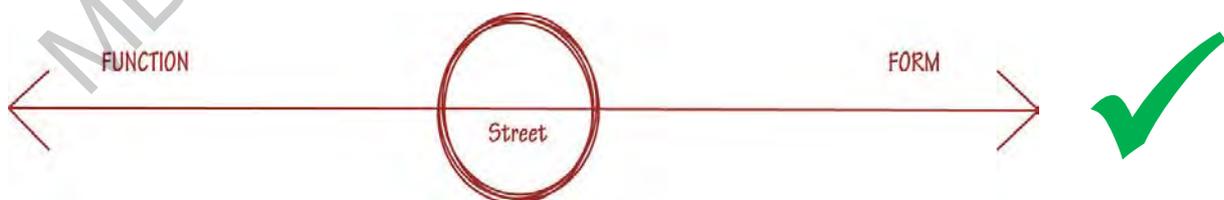
5. Responsive & Sustainable Places



- A. Respect and respond to the natural and built environment through design that positively contributes to the structure of a place.
- B. Design adaptable places that are able to accommodate future evolutions in their form and function.
- C. Promote the individualisation of streets and places to reinforce the character, micro-climate and context of their surrounds.
- D. Integrate environmental stewardship through the incorporation of water sensitive design, climate responsive design and the preservation of native flora and fauna.



A heavily engineered design process that focuses solely on function will fail to deliver a design response



Balancing of both form and function elements will allow for the successful creation of streets as places.



5. Streets, Roads and Utilities

5.1 Introduction

Complete Streets IPWEAQ is the primary document by which Council is responding to the current and future needs of all street users. Complete Streets is a philosophy that embraces all elements of road and street design that support their optimal use and which are respectful of their context and how it serves the differing needs of people that use the street.

Council has developed a number of Street Typology Cross Sections (Appendix A) that reinforce the principles of Complete Streets. These Cross Sections are based primarily on a classification system that define a street by the type of place that it helps to form (the Place Type).

Each Topology Cross Section also has a series of other attributes that can be used to consider the appropriateness of any particular cross section to achieve the desired design outcomes.

This classification system follows the principle that roads and streets designed for people are more functional and attractive and leads to greater integration within the built environment.

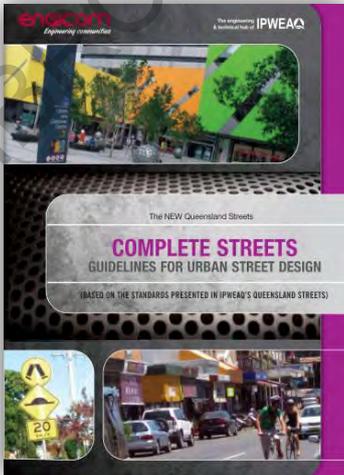
Classifying a street by its hierarchical function e.g. Sub-Arterial will still have significance in determining traffic carrying capacity and its applicable cross section, however this will no longer be its sole attribute or determining factor. Streets and roads do not necessarily serve the same user needs along their entire length, they continually change to embrace and support adjoining land uses.

A heavily engineered design process that focuses solely on function will fail to deliver a design response that is respectful of its context. It is important that the designer considers all elements of user needs, for example pedestrian crossings, in all street and road designs.

Design Principles - There are two high level sets of design principles that the designer should be familiar with:

- 1. A permeable and connected network
- 2. Context sensitive design solutions

"Complete Streets is a technical guide for urban street design, but really it is so much more than that. In conjunction with its online presence, this Guide seeks to be a living, breathing, evolving, comprehensive how-to-kit for contemporary urban street design that will produce quality spaces that cut across a variety of contexts for a wide range of users to experience and enjoy." - Complete Streets



5.2 A Permeable and Connected Network

The goal is to provide an easily walked network of direct routes, streets that have shade with roads that are easy to cross for pedestrians of all abilities but above all places of character.

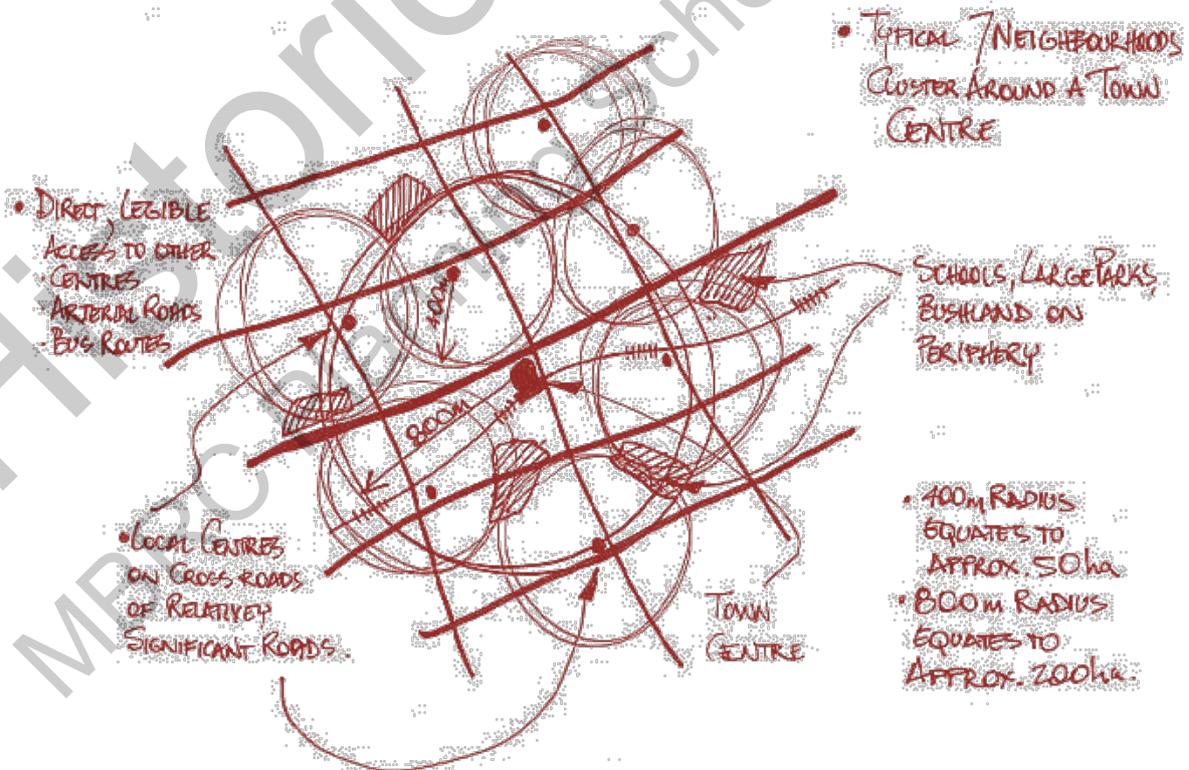
The street network should comfortably accommodate non-vehicle users and supports adjacent land uses. The streets should be designed to have a good relationship to surrounding buildings and spaces and be a network of streets and public spaces that respond to the needs of all users and not just a system of roads for cars.

The result is a movement framework that integrates pedestrians, cyclists and public transport users and which disperses traffic rather than concentrates it. Increased network connectivity and permeability is much more legible for users and is flexible enough to change with future needs.

Within a more connected street pattern the viability of existing centres can be reinforced with increased development density and better access. New centres and transport nodes can be easily placed in accessible locations near to the arterial network on cross roads of important streets and still be at the centre of their communities and activities. A well connected street network allows for ease of access to walkable catchments and to those accessing from further afield.

5.2.1 Urban Structure

The provision of a well-connected and accessible structure of walkable neighbourhood clusters forming along transport routes and not centres bounded by major roads leads to more viable and liveable local communities.



5.2.2 Compact Centres

The development of walkable neighbourhoods based on centres and transport nodes can only be sustainable with the placement of the most intensive uses closest to the centre. The result is a dome of density towards the centre of activity where the mix of land uses and housing types increases the choices and the level of activity. The basis of this activity is an accessible street network.

5.2.3 Walking and Cycling Catchments

Designing walking and cycling friendly communities will require high levels of infrastructure and land use planning coordination. An important consideration for the designer is the principle of 15 Minute Catchments. These catchments are based around the design requirements for people walking, cycling and using public transport within 15 minutes of

Activity Centres and other key destinations. A 15 minute walkable catchment (the PedShed), is equivalent to an 800 metre distance at an average walking speed. More information regarding this important design element can be obtained from Complete Streets and MBRC Active Transport Strategy.



People On Foot



Cyclists



Public Transport Users



Private Vehicles

USERS

5.2.4 Legibility and Access

Legibility of a layout is the ease at which it is understood and navigated through. The easiest way to navigate through a place is to continue straight ahead. Two design elements in particular have contributed to disconnected street networks that are highly illegible and left us with a legacy of sprawling car dominated suburbs:

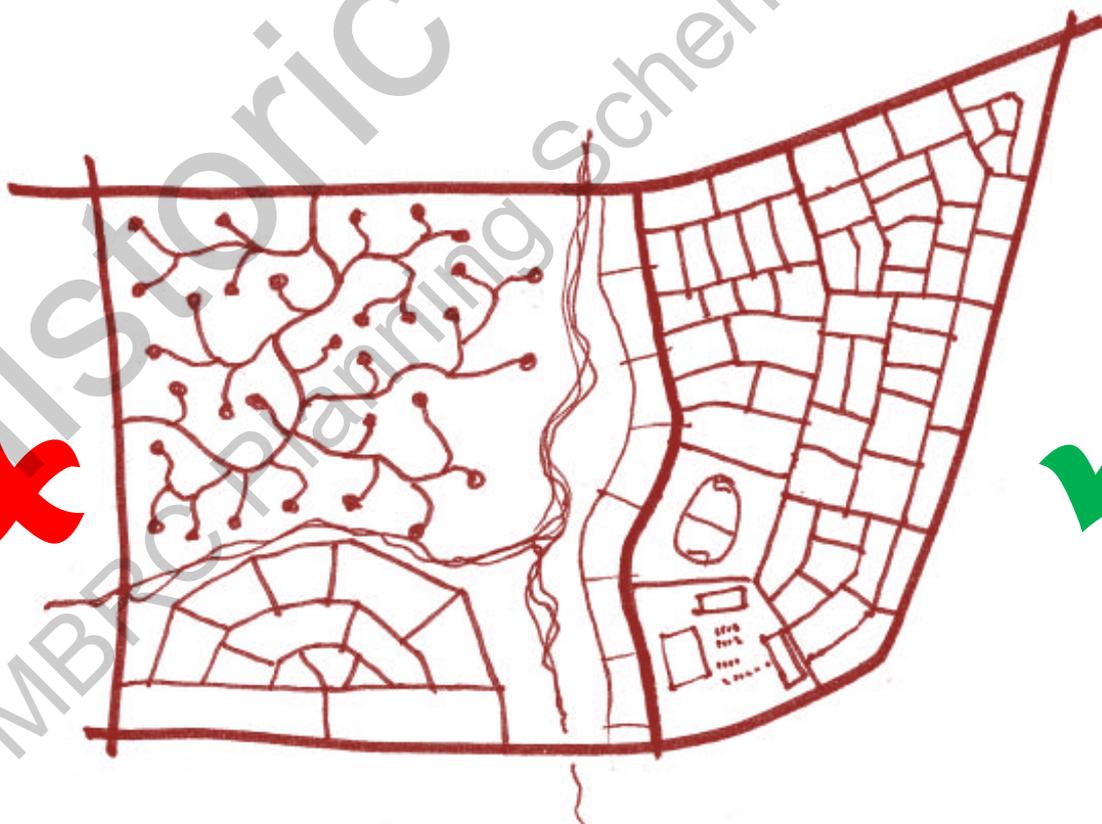
1. The Cul-de-sac
2. The 3 way intersection

As can be seen from the diagram below the cul-de-sac dominated layouts are impermeable and disconnected, where the grid is highly legible.

Cul-de-sacs provide for only one way in and out which concentrate traffic and as such should be avoided. If they are deemed necessary then they should only occur at edge of places, kept very short and placed so as not to interfere with connectivity.

5.2.5 Filtered Permeability

Four way intersections offer significant benefits in improving network connectivity, permeability and legibility. Avoid three way intersections wherever possible. Further guidance on these best practice design outcomes can be obtained from Planning scheme policy - Neighbourhood design.



5.2.6 Subdivision Plans

Subdivision plans creates the basis for the underlying structure of the built environment and as such guides how a place will develop. It determines the street network and how it connects to its surrounding. It creates the block dimensions and size and therefore how easy it is to access. It provides the scale, at which people will experience it and the development that will occur within. It determines how it will interact with the environment, topography and the existing community that surrounds it.

Street and block layouts need to be created with a vision and understanding of what development may occur into the future. Not just the site's role today but in consideration of an evolving community that changes as a response to the evolving needs of future communities and uses. In this way street layouts need to be connected, permeable and legible.

Simply creating a land subdivision without consideration of the surroundings and the character of a place does not provide for well-connected sustainable places for people to live, work and play in. A more comprehensive look at the context that the site sits within, how it relates to the existing physical aspects of the site, as well as the needs of the residents and adjoining communities now and into the future is essential to providing sustainable and liveable places.



5.2.7 Block Size & Dimension

The layout, size and dimension of street blocks is a basic tool in determining the permeability, connectivity and legibility of a layout and thereby the ability to move through a place. The longer the street blocks and the distance between intersections the less permeable the neighbourhood.

Greater permeability equates to greater connectivity improving the walkability of a place by expanding the PedShed. The result is shorter street lengths thereby affording greater opportunities to reduce vehicle speeds and rat running drivers.

Small blocks may reduce the ability to develop a place and should not be so small as to be unfeasible for possible future development. A balance is therefore needed to be found between the need for smaller blocks for walkability and connectivity and the need for a dimension and size that accommodates future redevelopment.

Variation in the size of street lots allows for variations in intensity and scale of development with reduction in block size as a centre of activity is approached to ensure greater intensity of street edges.

A good rule of thumb for the ratio between the width and depth of a street block is to have the long side 2 to 3 times the length of the shorter. Refer to Planning Scheme Policy – Neighbourhood Design for more guidance.



5.3 Context Sensitive Design Solutions

Context sensitive design solutions address design objectives and considerations that meet user needs and also consider wider issues. Complete Streets aims at providing technical guidance so that a designer can produce a design that balances user needs with competing factors such as capital and maintenance costs, environmental, economic and social outcomes.

Moreton Bay Regional Council have adopted a series of policy objectives (listed in Step 1). In the unlikely event that there are conflicting guidance, the designer should always consider the MBRC specific guidance contained in the policy as taking precedence.

The MBRC street and road user hierarchy is consistent with many best practice planning and design guidelines where an iterative process is undertaken with pedestrians considered first, cyclists second, public transport users third and then other motorised vehicle users. Complete Streets addresses all the elements necessary to achieve quality design outcomes. There are a number of design objectives informed by Council's strategic values that are worthy of further mention to provide additional design clarity:

- a) Prioritising pedestrians and cyclists
- b) The importance of street tree plantings
- c) Water sensitive design solutions
- d) What design vehicles to use for streets and roads
- e) Designing for personal safety and security



5.3.1 Prioritising pedestrians and cyclists

Designing for people on foot and on bicycles is of the highest importance to achieve Council's strategic 20 year vision. Active transport catchment planning around centres and key destinations is fundamental in the development of higher density and mixed use place types. Council has endorsed several policies that support this vision including:

- MBRC Strategic Framework
- MBRC Active Transport Strategy
- MBRC Street, Place and Movement Guideline
- MBRC Urban Design Charter
- International Charter for Walking

The designer should be cognisant of these policies when designing priorities for pedestrians and cyclists, particularly within the 15 minute catchments of Activity Centres and key destinations. Priority crossings for pedestrians and cyclists should always be incorporated in designs relative to context and place type. These will generally take the form of zebra crossings or signalised crossings, however other form of priority crossings are available to the designer including Shared Zones and Priority Raised Crossing (Austroads Cycling Aspects Guideline 2011 7.6.4).

Provision shall be made for pathways in all projects and as required by Council's Planning Scheme, Conditions of Development Approval or the MBRC Movement Plan. The minimum width of any pathway is generally 2.0 metres, however this can be reduced in local access street situations, especially in lower density residential areas. All pathway designs should seek to minimise obstructions, clutter and other hazards to users. Austroads provides a number of suitable solutions for terminating pathways.

5.3.2 The importance of street tree plantings

Street trees should be included in most if not all street and road designs. Streets trees are arguably the most cost effective design improvement that can be implemented in any street design and have multiple benefits:

- They offer shade to pedestrians and cyclists encouraging increased participation rates, reducing traffic and improving personal health.
- They provide improved amenity values and environmental qualities to the public realm enhancing civic pride and communicating a quality of place to visitors.
- They can be used to visually traffic calm streets.
- They provide a cooler micro climate by reducing the urban heat island effect.
- They provide a biodiversity for many species and contribute to Council's Green Infrastructure Strategy.



5.3.3 Water sensitive design solutions

Water sensitive urban design solutions (WSUD) are included within Appendix C – Stormwater Management* of these PSP. Specific mention is given to them here because Complete Streets only gives a cursory design response to them. The details provided in these guidelines should provide all the information required for the designer to incorporate the appropriate WSUD as part of an integrated and complete street design. Integration of WSUD is encouraged as part of all street and road designs and should also be part of the landscaping/streetscaping design outcome. Shade tree planting should be integrated with WSUD where possible. Further guidance on this is included in Appendix C – Stormwater Management and Appendix D – Landscape design and street trees.

5.3.4 What design vehicle to use for streets and roads

- Access streets is a heavy rigid vehicle (HRV) - 12.5 metre turning radius
- District collector and above is a heavy rigid vehicle (HRV) – 12.5 metre turning radius

These standards are generic and the designer should ensure that the design is specific to the circumstances. Care should be taken by the designer in transcribing a turning arc that minimises the kerb radii to reduce pedestrian crossing distance and traffic turning speeds. Local streets in next generation and urban precincts may need to accommodate a standard metro bus.



"Interference Patterns" create static spaces within the street and promote slower vehicle speeds

5.3.5 Designing for personal safety and security

Crime prevention through environmental design is an important design principle for all streets and roads. Designing in casual surveillance provided by those live and work along the street can significantly improve design outcomes and activate streets. Pedestrians should not be visually removed from the buildings that are located along the street.

Care must be taken to ensure that private open space is not placed to the frontage of buildings resulting in the blocking of the visual connection between the building and those walking along the street. In this way routes that segregate pedestrians and cyclists from the traffic should be avoided. If they are required then they must be short, well overlooked and relatively wide to avoid a sense of confinement.

The most common of these situations is the pedestrian link between cul-de-sacs. These are often created as result of poorly connected neighbourhoods. Street focused movement is preferred where possible and cul-de-sacs must be avoided or kept short and minimised in number and located where there is no need, possibility or desire to continue past the end. Refer to Planning scheme policy – Neighbourhood design for further guidance.

"If we can develop and design streets so that they are wonderful, fulfilling places to be, community-building places, attractive public places for all people of cities and neighbourhoods, then we will have successfully designed about one-third of the city directly and will have had an immense impact on the rest." - Allan B. Jacobs, Great Streets



Higher traffic volume roads can still have frontage access by using innovative use of shared space and consolidated access



6. Open and Civic Space Design

6.1 Introduction

The quality of public open space created a strong impression to residents and visitors to our region. Cities, towns and regions that maintain generous well designed, high-quality public open and civic space look better, feel better and work better. It is part of what gives the varied communities within the region their unique identity and local citizens a sense of civic pride. Appendix B provides technical details on the MBRC standards for park types.

Design Evolution and Integration

Contemporary planning and design of open space has moved towards planned networks. Open space design is no longer only about providing a minimal amount of public land in a new development for public use. Open spaces serve multiple functions and therefore, must be carefully planned and designed to generate the best net benefit to the community and to the natural environment. Greater consideration needs to be given in the design process to ensure that public open spaces provide functions that best suit the needs of the entire community.

Open space design now incorporates a number of recreational, sporting and civic functions as well as giving regard to flood mitigation, biodiversity, sustainable drainage systems, business performance, community health and the character of an area. This process of integrated design is a key theme of this guideline.

The primary objective of integrated Open Space design is to allow open spaces to work in harmony with other uses, by taking on multiple functions that provide benefits for the entire community.

For example, the planning and design of a new playground should look for opportunities to integrate with other compatible uses. This may be achieved by locating the playground in view of the children's reading room at the library or by locating it near a café so parents can watch their children play over a coffee.

Each use receives a greater benefit being located near each other than if separated. The playground gets more exposure and the café and library receive increased business. The legibility between the uses and users has been enhanced and results in reciprocal benefits such as increased interest and vitality of the space.



Alternative solutions may be adopted provided the outcomes or performance at least equivalent to that presented in this guideline. Where it is not considered reasonable or practicable to achieve the outcome, the designer may be required to provide—to the satisfaction of Council—justification for the decision and how the design achieves the principles and desired outcomes.

Council's technical design guidelines for open and civic spaces and how they relate to place types are contained in Appendix B

6.2 Design Principles

There are six high level design principles for open and civic space that the designer should become familiar with:

1. Relative to place and culture
2. Diverse, multi-functional and adaptable
3. Connected and accessible
4. Financially sustainable
5. Legible, activated and safe
6. Promote environmental values

6.2.1 Relative to place and culture

Residents take great pride in their neighbourhoods. Successful and enduring open spaces are those that remain relevant to people's day-to-day lives. It is important that open spaces compliment the places where people live and provide a balanced range of recreation opportunity that meets community expectations.

Council has endorsed a strategic framework vision that introduces a variety of place types for the region. The place types are key elements in a land use model which establishes desired outcomes expected in a variety of locations throughout the region. Council uses the place types to understand the needs within particular communities for parks and recreation facilities. This information allows Council to plan, design and deliver the variety of spaces and facilities that best meet the needs of the particular community and which respect the inherent landscape character. A description of the individual place types as it related to open space can be found in [Appendix B](#).

The planning and design of open space should:

- a) Create spaces with identity and real 'sense of place'.
- b) Provide the necessary recreational opportunities and embellishments that are related to the role, function and location of the space.
- c) Retain and promote natural and cultural features and Incorporate opportunities for public art and expression of community values in landscaping..
- d) Provide wayfinding and signage when cultural and environmental features are present.
- e) Be responsive to climatic conditions.

6.2.2 Diverse, multi-functional and adaptable

With the trend towards increased density of urban development, density, the reduction of private open space will increase the demand on the public open space network.

Every individual within the region experiences and uses open spaces in varying ways. Meeting the needs of the individual as well as the wider community is often a challenging task. In some existing neighbourhoods parks and open spaces tend to replicate the same experiences. This does not encourage a variety of users from different age groups with diverse interests to utilise open spaces. Open space users want a choice of activities and recreation opportunities across a range of settings.

People's needs for open and civic spaces also change over time. What users need today will most likely be different in the future as new interests and technologies emerge and demographics shift in the neighbourhood. To get the best out of parks and make the most efficient use of space, parks need to be adaptable to change and capable of meeting a variety of users' needs.

Multi-functional and flexible spaces adapt well to those changes, allowing for a range of users to enjoy the same space at different times of the day. For example civic spaces may be used to host community events such as markets or live music but also provide space for people to eat lunch during the day.



The planning and design of open space design should:

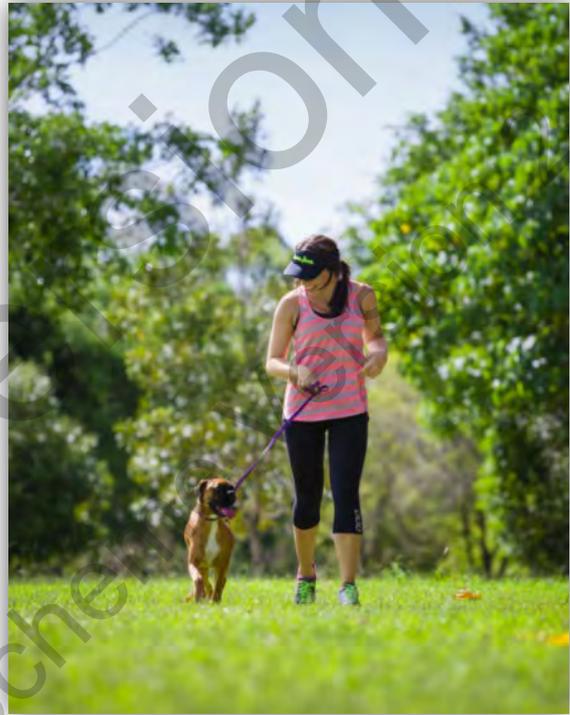
- a) Incorporate the ability to evolve, mature and adapt over time.
- b) Create an equitable network of parks with a variety of settings, experiences and facilities responsive to community needs.
- c) Determine potential opportunities for multi-functionality and co-location of facilities.
- d) Provide adaptable embellishments such as multi-use sport equipment and multi-purpose public art.

6.2.3 Connected and accessible

Connected and accessible open space corridors can provide attractive walkable links to popular destinations and promote an active transportation alternative. Having a good quality open and civic spaces close to residents home or workplace makes neighbourhoods much better places to live, work and play.

Open and civic space design should:

- a) Provide a network of open space corridors and spaces to facilitate access and be designed to encourage use for all abilities.
- b) Locate parks in prominent locations with a level of transport accessibility relevant to their place type, role, form and function.
- c) Provide activities and facilities for a range of ages.
- d) Create a safe and attractive walking and cycling environment to and within.
- e) Create strategic links with adjoining open and civic space or land uses, particularly along waterways.
- f) Consider key destination points within the open space network, serviced by sufficiently wide and well graded pathways with seating, drink fountains and activity nodes along the route..
- g) Utilise shared pathway networks.



6.2.4 Financially sustainable

An understanding of the long term financial sustainability of park and open space is essential if community aspirations are to be realised and the quality of those spaces is to endure. In reality many of the most important and basic elements in open spaces are not expensive to construct and have low ongoing maintenance costs. For example, paths, trees, grass, and seats are the simple features of parks that have endured for centuries and generally hold the widest appeal. Careful planning and design of more significant and expensive facilities can also ensure sustainable ongoing maintenance costs and achieve long lifecycles.

Open space design should:

- a) balance costs with the service standards expected by both Council and the community.
- b) Promote the shared use of space and consolidation of facilities and activities in more appropriately located park and open space.
- c) Create vibrant and functional spaces with an ability to change and adapt over time.
- d) Use durable materials and finishes that are easy to maintain and replace and also attractive.

6.2.5 Legible, activated and safe

Legibility in design is one of the key principles to encourage people to use parks and open space for passive recreational activities, active transport, educational pursuits and social and cultural experiences. Legibility refers to the degree to which a place can be easily understood and navigated.

The ability to comprehend the essential structure and nature of a place is important for the casual user or visitor in developing a 'sense of place'. A place that is easily understood and provides a feeling of safety is more likely to be enjoyed by many, shared with friends and visited time and time again.

Open and civic space design should:

- a) Utilise Crime Prevention Through Environmental Design Principles (CPTED).
- b) Encourage a range of activities throughout the day and evening to promote the activation of space.
- c) Locate facilities close to other compatible facilities to maximise joint use and minimise duplication of infrastructure.
- d) Mitigate unnecessary conflicts between users and potential risks.
- e) Enhance legibility of a place through the use of:
 - i. Prominent landmarks and gateways
 - ii. Clear views, sight lines and focus points
 - iii. Clear edges and buffers between spaces
 - iv. Clear and easily navigable routes
 - v. Innovative lighting
 - vi. Public art that enables community values and cultural heritage to be expressed in meaningful and enduring ways
 - vii. Interpretative signs and way finding markers
 - viii. Interactive websites and maps

6.2.6 Promote environmental values

Natural areas not only provide essential habitats for native fauna and flora but also provide important green spaces for people. Natural areas face significant pressure from population growth and urban expansion. Green corridors not only support the movement of people between places but support animal and plant movement, dispersal and refuge.

Open and civic space design should:

- a) Provide facilities and activities that are considerate of and promote the sites natural setting.
- b) Incorporate natural elements such as waterways and retained vegetation into park designs where appropriate.
- c) Identify and enhance significant corridors which provide both environmental and recreational values.



7. Stormwater Management

7.1 Design Evolution and Integration

Past development and conventional water management practices have resulted in a decline in the health of local waterways and estuaries and impacted on the function of floodplains. Additional population growth and a changing climate are expected to place further pressure on the region's natural resources. The sustainable development of the region will be governed by the ability to better design and manage the water cycle as a whole.

The traditional approach to stormwater management has been to recognise runoff as a nuisance that poses a potential risk to life and property. Stormwater has been collected and conveyed through piped drains and concrete channels as quickly and efficiently as possible.

In recent years, there has been an increasing recognition of the need to responsibly manage, control and improve the quality of stormwater runoff which can improve waterway health. A history of wasteful water consumption has significantly impacted upon the current state of Australia's water cycle and its status as the driest inhabited continent in the world. The current trends across Australian governmental agencies are to implement strategic initiatives that aim to strike a balance between the volume of water that is treated to a potable standard and the percentage that is actually consumed. Water Sensitive Urban Design (WSUD) offers one such approach by integrating water into the design fabric of the urban environment.

WSUD is a holistic design approach to the planning and design of urban development that aims to minimise negative impacts on the natural water cycle and protect the health of aquatic ecosystems. This is achieved by multidisciplinary design teams; including technical specialists such as ecologists, civil/environmental engineers, landscape architects, urban designers and maintenance personnel who collaborate to develop comprehensive stormwater systems that integrate with the local environment.

WSUD is expected to:

- Reduce the negative impact of development on stormwater quality and limit potential for increased flows in local waterways. Protect waterway habitat from impacts of urbanisation
- Reduce changes to the natural flow regime by maximising infiltration
- Promote water reuse
- Assist flooding and drainage control
- Promote flexible solutions that correspond with site constraints

Consider the social value of stormwater by providing additional aesthetic benefits



7.2 Design Principles

The key principles upon which stormwater systems will be designed, constructed and maintained are presented below. Inevitably there is some degree of overlap between the principles so it is important that they are understood in their totality.

7.2.1 Integrated and Fit for Purpose

Water plays an essential role in the day-to-day lives of the community. Water can be treated to different levels with potable quality water required to sustain life. However water with a lower level of treatment can be used for non-potable purposes such as the irrigation of gardens or playing fields. Stormwater is a valuable resource that can be used to replace potable water where a higher standard of water is not required.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Meet the expectation of the community
- b) Fulfil a range of functions (aesthetic, environmental, recreational, microclimate, etc).
- c) Consider and support the planning and design of other infrastructure networks.

Stormwater conveyance, storage and treatment elements can be utilised to form a stormwater network that achieves the desired objectives and is integrated with the surrounding environment.

7.2.2 2 Manageable and financially sustainable

As with any asset managed by Council, ensuring stormwater assets are designed, constructed, established and maintained correctly is more cost effective than rectifying poorly-functioning assets. The risk of rectification can be substantially reduced by well-designed and constructed assets that consider whole of lifecycle costs.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Balance the cost implications with the service standards expected by both Council and the community
- b) Mitigate the impacts of natural hazards on critical infrastructure
- c) Enhance the ecological values of the region

7.2.3 3 Adaptable to Growth

The region is facing unprecedented growth over the coming years. This growth will present many challenges including increased water demand, flooding impacts, demand for space, climate change and the future health of our waterways.

As the needs of the community evolve over time, the way we treat water in the urban environment needs to evolve as well.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Cater for future demand
- b) Be responsive and adaptive to changes in land use and built form
- c) Integrated with other infrastructure networks

7.2.4 Safe

Planners and designers must recognise the constraints natural waterways and constructed stormwater systems place on development. Similarly designers must ensure any water infrastructure introduced into

the urban environment is designed to meet current safety standards and minimise risk to the community but still provides a high level of amenity.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Protect people, property and critical infrastructure from the adverse impacts of flooding
- b) Reduce peak flows from urban development by local detention measures, minimise impervious areas, and promote infiltration where applicable
- c) Reduce pollutant loads to mitigate the health risks to the community and the environment
- d) Mitigate conflicts between users and potential risks

7.2.5 Promote diversity and community values

Waterways and coastal areas are important, not only for the inherent value of their diverse ecosystems, but also for their recreational and economic uses. The value of waterways will be different for every individual in the region and meeting the needs of the individual as well as the wider community is often a challenging task.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Be functional, visually appealing, and integrate into the landscape to enhance visual, social, cultural and ecological values.
- b) Maximise the retention and preservation of natural vegetation, landforms and ecological processes.
- c) Prevent decline in waterway health
- d) Promote natural diversity.



7.2.6 Improve Water Security

New urban developments are increasing pressure on the environment through the need to develop additional drinking water supplies and the discharge of polluted stormwater and treated wastewater into receiving waters. Better management of drinking water is integrally linked to both water conservation and waste minimisation through the efficient and effective re-use of stormwater and wastewater resources.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Reduce potable mains consumption through the efficient use and reuse of water
- b) Consider of alternative water sources through the use of rainwater and stormwater harvesting
- c) Recharge of natural groundwater.

7.2.7 Improve Waterway Health

Many economic, ecological and social values can be seriously affected by a decrease in waterway health. Given the population and urban development forecasts, a business as usual approach will accelerate a decline in the health of the region's waterways. Managing the negative impacts of urban development, such as increased stormwater flows, and the associated sediment and nutrient loads is a priority to ensure the continued health of the region's waterways.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Protect and enhance the ecological health and biodiversity of streams, creeks and rivers.
- b) Improve the quality of water draining from urban developments and Ensure new urban developments are increasing roadways into the receiving environment by utilising best practice stormwater management.
- c) Prevent erosion of waterways, slopes and banks.
- d) Minimise site disturbance, control runoff and prevent increased movement of sediment into surrounding waterways.

7.2.8 Protect coastal areas

Coastal and inland development such as waterway modification, development on floodplains, and removal of riparian vegetation, is placing pressure on inland and coastal aquatic ecosystems that are essential habitat for freshwater and marine plant and animal life. It is important that coastal areas are continually protected and the negative effects of development are minimised.

The stormwater network and associated infrastructure should be planned, designed and constructed to:

- a) Incorporate best management practice in all projects
- b) Protect the coastline and critical infrastructure from environmental processes such as erosion, storm tide and sea level rise.

Appendix C provides the technical criteria to deliver on these design principles.



8. Landscape Design & Street Trees

8.1 Trees for Streets, Roads and Places

Trees are a vital component to achieve successful street, road and place design outcomes.

Trees in urban environments including streets and roads are essential for a high quality streetscape and contribute to shadier more comfortable pathways and places which in turn encourage increased participation in walking and cycling. Healthy, established urban trees provide a long term legacy for the community. Many of the most memorable streets, roads and places can attribute their noteworthy status to the presence of significant trees.

At the regional scale trees in streets and roads contribute to the overall percentage canopy cover which in turn delivers a variety of environmental benefits. To achieve successful streetscapes critical factors such as selection of the most appropriate tree species, quality of the plant stock, care in planting and planning for and providing adequate soil, water and maintenance are essential.

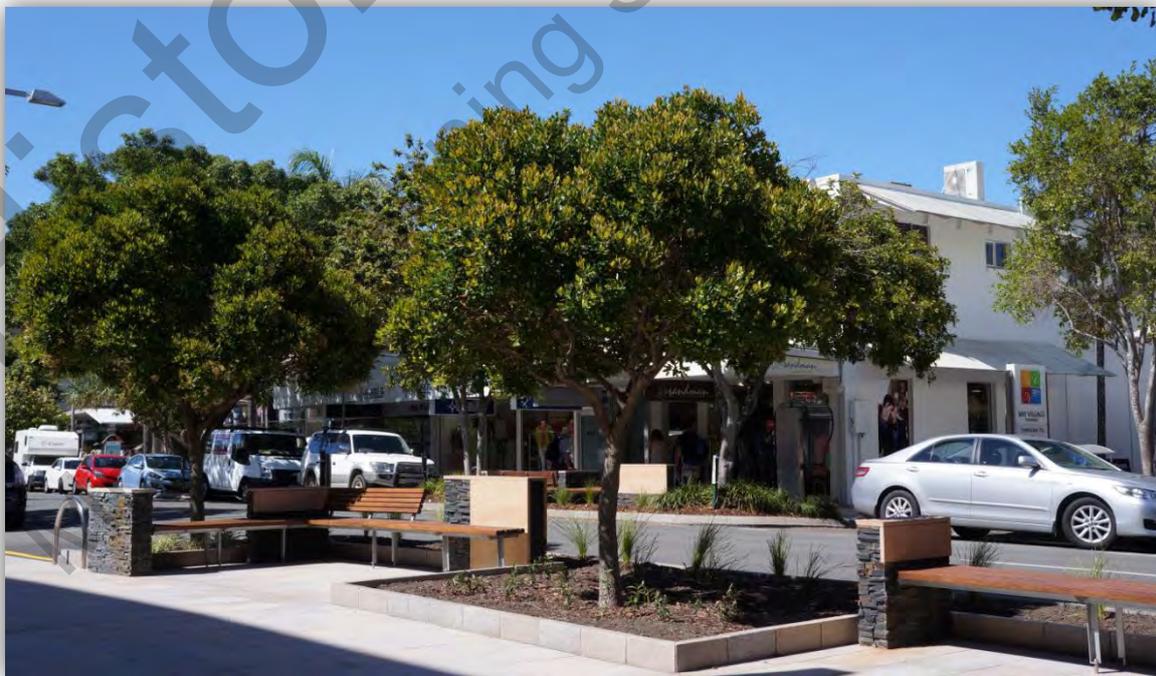
Appendix D – Landscape design and street trees of this PSP provides guidance on landscaping and street tree planting within the Moreton Bay Region.



Shady tree lined streets provide a welcoming environment for pedestrians and cyclists

8.1.1 Design Principles

- 1 Street trees are a legacy for the community. Maximise planting of trees in all streets and roads, and retain existing trees wherever possible.
- 2 Street trees should contribute to the overall unity of the streetscape, through their layout, scale and character. Careful selection of the tree species will provide scale and visual cohesion to the street. Beyond this generic design intent for the street trees, trees can also form landmarks, contribute to both contextual character and the general amenity of a place.
- 3 Select the most appropriate tree species to satisfy the design intent and the physical conditions of the site both natural and man-made. Respond to other functional requirements such as solar access, vehicle clearances etc.
- 4 Optimise growing conditions for trees. Locate trees to maximise available soil volume in the root zone, and that adequate moisture is provide to that zone, and incorporate structural soils, continues tree planning pits and permeable pavements to ensure sustainable growth..
- 5 Street trees need adequate water to flourish. Street tree location and design should optimise passive watering of all street trees.
- 6 Minimise infrastructure and functional conflicts. Locate trees and utility services to minimise potential conflicts between street elements and functions, such as streetlights being blocked by the tree canopy, or car doors being opened into tree trunks.
- 7 Where appropriate integrate water sensitive urban design (WSUD) initiatives with the provision of street trees.



8.2 Landscape design

This section forms the core of the PSP establishing the key principles upon which landscaping projects will be designed, delivered and managed. Inevitably there is some degree of overlap between the principles, so it is important that they are read and understood in their totality. Applying these principles in landscape design outcomes will ensure Council's vision for open space is achieved throughout the region.

8.2.1 Resilience

Resilience is the ability to adapt or cope with the changing world to keep parks and open space relevant and minimize the impact of adverse changes. The design must accommodate user change, cultural change and environmental change.

Through landscape design the development provides a landscape of resilient spaces designed to acknowledge our changing subtropical climate and maximise potential positive opportunity from change within the site and environment. Such spaces should seek to integrate change through:

- a) The topography and existing site conditions, including existing vegetation;
- b) Drought tolerance, through innovative use of rainwater runoff;
- c) A minimization of the consumption of energy by selecting sustainable materials and appropriate species in planting to reduce maintenance intervention.;
- d) The use of robust, preferably local, materials; and
- e) A consideration of potential positive and negative impacts from extreme weather events.

Through landscape design the development provides durable, multifunctional and useable spaces that are of sufficient area and dimension to cater for a diverse group of users and a range of passive and active recreation uses.

8.2.2 Place

A great place is created through the generation and enhancement of spaces that are distinct and acknowledge the landscape in which they sit. The design should acknowledge landscape character elements, a development's visual impact and history.

Through landscape design the development integrates and enhances topographic features, existing trees and vegetation, water bodies, landmarks, gateways, scenic areas and views of the site and surrounds.

Cultural, historical and heritage features of both indigenous and non-indigenous origin are integrated into the development in a way that enhances their values and conserves its core meaning.

Through landscape design, the development provides a landscape that acknowledges the qualities of our subtropical climate and enhances the 'sense of place' of the area, through:

- a) Integrating and softening the built form, from the streetscape and adjoining uses;
- b) The provision of shade trees;
- c) The provision of sufficient buffers to the street and incompatible uses; and
- d) A high standard of landscaping at entries, adjoining public spaces and pedestrian thoroughfares.

8.2.3 Movement

The spaces need to be connected, accessible and legible to function seamlessly and promote use. This is required for both internal lot movement and inter-lot movement.

Through landscape design the development provides a landscape that is legible and connects private open space and building forecourts with public spaces offsite to encourage pedestrian useability, to maximise accessibility, promote active lifestyles and ultimately link to the public transport system.



8.2.4 Environment

Through appropriate landscape planning and design, new development should provide a landscape that acknowledges and enhances the environmental values of the area through:

- a) Effective buffering of areas of environmental sensitivity;
- b) Rehabilitation of areas of poor environmental quality;
- c) Maximising the retention of existing trees and vegetation;
- d) Enhancing biodiversity by encouraging use of endemic flora and fauna;

Maximising wildlife connectivity and reducing habitat fragmentation by retaining remnant vegetation and connecting it with new landscaping..

8.2.5 Interaction

Landscape planning and design outcomes should encourage social interaction. There should be places that are comfortable for people to sit, dine, enjoy views within and external to the space and be comfortable with appropriate shade and weather protection. There should be opportunities for interaction with vegetated natural areas, edges of waterways or elevated viewpoints, to enhance a wider appreciation of the values and sensitivity of the surrounding landscape features.

The community should have ready access to open space that has::

- a) Flexibility so that they can be used for a wide variety of activities;
- b) Semi private areas as well as larger public expanses;
- c) Access to winter sunshine, summer shade, and shelter from wind and rain;
- d) Paths, crossing spaces and seating are located to encourage incidental social interaction;
- e) The potential for community or kitchen gardens;
- f) A range of amenities that enhance the enjoyment and use of the space.

The development provides visually appealing and comfortable private open spaces with sufficient area and shade for the enjoyment and appreciation of residents and their visitors.