Subtropical Values
and
Principles of Subtropical Design
for the
South East Queensland Region
Subtropical Values

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for the
South East Queensland Region

A Report for the
Office of Urban Management
Queensland Government

Prepared by
The Centre for Subtropical Design
Queensland University of Technology
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Foreword

The Office of Urban Management recognises that the values which characterise the SEQ region as ‘subtropical’ are important determinants of form in urban and regional planning. Subtropical values are those qualities on which our regional identity depends. A built environment which responds positively to these values is a critical ingredient for achieving a desirable future for the region.

The Centre for Subtropical Design has undertaken this study to identify the particular set of values which characterises SEQ, and to translate these values into design principles that will maintain and reinforce the value set. The principles not only apply to the overall balance between the natural environment and the built environment, but can be applied by local government authorities to guide local planning schemes and help shape specific built for outcomes.

1.0 Introduction

South East Queensland is a region that is characterised by the interplay between human environments and its distinct subtropical climate, topography and landscape. This regional character is expressed in a diverse range of subregional variations, each of which presents unique local opportunities and challenges for appropriate design.

Design for South East Queensland must be informed by the essentially subtropical nature of our environment if it is to be appropriate and sustainable. While a dynamic and innovative local vernacular design vocabulary has evolved in response to these conditions, it has largely been confined to low density residential applications, and needs to be reassessed in terms of its application to contemporary conditions and a wider range of built forms including medium and high density residential, and commercial and retail contexts.

The fundamental challenge for developing principles for appropriate subtropical design in South East Queensland is to make explicit how our built environment can best express our relationship with the environment, as this is in many respects a defining feature of our lifestyle and identity.

It is important that these principles be simple, easy to use, and flexible enough to be applied in local conditions, while remaining reflective of regional characteristics. In order to achieve this clarity and simplicity this document will articulate a set of values that form the foundation of design of the built environment for South East Queensland’s character and conditions, translated into principles for the application of these values in a range of local contexts. It is envisaged that these values and principles will provide the basic framework, information, and inspiration for design within this distinctive subtropical environment.

1.1 Methodology

The key research technique adopted for this study was the nominal focus group where a group of experts were assembled in a workshop to:

- Articulate the value set,
- Develop a list of contextual settings where design principles can be applied, and
- Translate values into principles which are to be applied to contextual settings.
- Resulting ideas were collated and circulated to the group for further input. (see figure one)
Workshop
A full-day workshop involving locally based professionals from the fields of architecture, urban design, planning, and landscape architecture was organised for the purpose of developing:

1. An understanding of the values which characterise design in South East Queensland’s subtropical environment.

   This was achieved through initially developing a set of values which hold across the region regarding living in a subtropical environment. These values were seen to operate at both a broad regional level, as well as on a more specific local and sub-regional basis.

2. A list of contextual settings, representing different aspects of the total regional built environment, against which the values could be translated into relevant principles. These settings were identified as:
   - High density residential
   - Medium density residential
   - Low density residential
   - Centres
   - Open space in rural, suburban, inner urban settings
   - Urban – open space balance

3. Participants in the workshop then developed design principles based upon the application of the values to these contextual settings. Using this process it has been possible to develop principles that are at once applicable across the regional area, and also sensitive to local requirements and differences.

   The diagram below summarises the process used to derive the workshop outcomes.

   ![Diagram showing the process of deriving workshop outcomes](http://example.com/diagram.png)

   **Figure 1: Summary of the methodology used to derive the workshop outcomes**
2.0 Subtropical Values

Workshop participants reflected on the qualities that distinguish the South East Queensland region as a place with a subtropical identity. The values are reflective of the key aspects of the SEQ subtropical environment that are of importance in relation to establishing desirable built form in the region. They form the underlying criteria for appropriate design in South East Queensland. They may be considered at a broad regional level, and also as having specific meanings at a sub-regional or contextual level.

The following values were arrived at by a process of review and identification of the critical aspects of the regional environment in terms of ‘subtropicality’ and subtropical living.

**Strong Presence of Nature**
The natural environment (land, air, water, flora and fauna) of subtropical South East Queensland is valued both for its strong and immediate presence and profusion, and in terms of its relatively good health and sustainability.

**Strong Presence of Water**
Water is an ubiquitous presence in SEQ both through the natural systems, and in the humid climate.

**Openness**
The desire for openness is reflected in the desire for space between buildings, roads and other elements of the built environment. The subtropical climate encourages a built form which often includes lightweight structures and elements. This allows for openness to the penetration of the natural environment, openness of space, openness to the sky, and access to breezes.

**Life Outdoors**
The subtropical climate means that we can spend a significant part of our lives outdoors, both within our built environments, and in natural areas.

**Love of space**
Subtropical lifestyles in South East Queensland have traditionally expressed themselves in a preference for living in low density environments, and a parallel resistance to high density living. We desire uncrowded environments and ‘room to move’.

**Informal lifestyle**
Outdoor living, the benign climate, and the close proximity of natural and rural environments have fostered a strong sense of informality in the subtropical lifestyle.

**Appropriateness of the vernacular**
The subtropical environment of South East Queensland prompted a unique vernacular built environment. Especially important is the engagement of the built environment with the climate and landscape in an active manner. This vernacular is expressed in locally appropriate ways, often as lightness and openness towards the coast, and in a more grounded manner in the interior of the region.

**Sensuousness**
South East Queensland’s environment, both natural and built is composed of a rich, potent, varied, colourful and vibrant spectrum of elements which impact strongly and positively on all the senses.
3.0 Subtropical Design Principles

Subtropical values may be related to built form through the application of design principles. The principles provide a means of informing design at a range of scales and contexts encountered in the regional subtropical environment. These principles are important basic parameters for locally appropriate specific application and innovation. The diversity of climatic, landscape, cultural, and habitat subregions of South East Queensland should be recognised and reflected in the application of these design principles. Three high priority principles which should permeate development in subtropical South East Queensland have been identified.

Priority principles

1. Nature is highly present in urban development

The natural environment is to be integrated within the development of the built environment.

2. High percentage of open space within development

Private, semi-private, and public open space is to be an important integral component of all development, allowing access to the natural environment, and enabling an outdoor based lifestyle.

3. Create an open and permeable built environment

Design to allow for the penetration of breezes, the presence and intrusion of nature, and a sense of openness and movement.

These Priority Principles are supported by the following principles derived from the Value set.

Strong Presence of Nature

Identify and protect open spaces and waterways
Identify and protect critical open space sites including waterways, and linkages between these sites, as part of the process of designation of areas to be developed.

Respect topography
Protect the integrity and character of the hills, mountains and ridgelines that are important in framing and defining our subtropical environment. Protect the ranges, ridges, and mountain slopes from development. Maintain treed ridgelines.

Locate high density near open space
Accompany increasing levels of density with increasing proximity to open space. Ensure ready access to useful open space in compactly developed places.

Urban growth with increased tree cover
Accompany increasing urban growth/expansion/consolidation with increasing growth, expansion and consolidation of urban tree cover.

Green transport corridors
Major arterials and highways should incorporate and reflect the values of the communities they pass through. Incorporate typical local vegetation in planned and existing transport corridors including rail corridors, freeways, motorways and busways.
Foster tree planting and continuous vegetation
Plant native trees extensively throughout communities, and preserve existing trees during new construction. Allow for large shade trees to flourish in private and public space between buildings, and between buildings and streets.

Shaded streets and median strips
Require pedestrian footpaths in all new developments to have continuous tree cover. Choose trees with broad spreading canopies where practical. Locate utilities should be located underground in new developments, or when upgrading existing infrastructure.

Built environment integrated with nature
Allow breezes, sunlight, and the natural environment to penetrate into the built environment.

Green walls and rooftop gardens
Advocate green walls and rooftop gardens in high and medium density developments where existing site cover constrains planting large trees for shade.

Balance building heights and vegetation
Allow trees to dominate building form. Preferred height for medium density development is two to four storeys, similar to heights of mature shade trees. Preferred heights for higher densities is four to six storeys.

Preserve the character of bay islands
Maintain the integrity of the identity and character of the bay islands as a critical component of the subtropical character of the region.

Strong Presence of Water

Water in nature
Reflect the importance of water as a significant feature of the environment. Intensify awareness of its presence by rejuvenating and maintaining riparian corridors and drainage corridors.

Access to water
Provide accessible water based elements as a significant component of the landscape and open space.

Design for water
Celebrate the importance of clean water to the functioning of our lush environment by adopting water-sensitive urban design strategies to support existing and new vegetation. Every development is a part of the water collection and distribution system.

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Balance the relationship of private space to community connectedness while ensuring a sense of privacy for occupants. Incorporate an open space continuum from private outdoor space, semi-private and semi-public and public space. Networks of open space add to permeability and the perception of open space.

Outdoor centres
Support vibrant outdoor places. Provide sheltered outdoor space in centres to support activities such as shopping, dining, entertainment, recreation, and access to public transport.
Community gardens
Develop community gardens in or near high and medium density environments. Irrigate by using water harvested from buildings and site.

Access to open space
Preserve the proximity to natural open space, including recreational areas and agricultural land, and protect our outdoors-based lifestyle by limiting the growth of the overall urban footprint.

Networks of open space
Maximise the usefulness of urban green spaces. Provide interconnected corridors of protected green spaces. Flora and fauna greenways can also double as pathways for pedestrians and cyclists.

Promote compact development
Advocate medium density development as the most appropriate morphology for subtropical environments. Compact building design limits overall site cover and allows for substantial vegetation to be incorporated on sites. Respect topography as a design constraint rather than a problem to be solved by demolition.

Informal lifestyle
Informality
Incorporate the attributes of relaxed informality and village-like character that are present in other aspects of the South East Queensland environment such as informal layouts, broad, open streets, informal landscaping, and an outdoor, casual, street oriented culture.

Appropriateness of the vernacular
Vernacular character
Recognise the contribution of vernacular structures to the character and diversity of our subtropical environment. Safeguard the authentic in existing areas by allowing for dynamic changes in use over time. Infill development in character areas should reflect neighbourhood scale, materials and construction principles.

Complement vernacular through design
New construction should complement the traditional vernacular but avoid inauthentic historical pastiche. Identify and utilise contemporary applications of subtropical vernacular design principles, such as shading walls and openings, and allowance for natural ventilation through the use of openable and adjustable windows.

Orientation
Adopt appropriate climatically responsive orientation of buildings. Optimise opportunities for the habitable spaces of buildings to face predominantly north.

Sensuousness
Preserve visual delight
Exemplify and celebrate the sensuousness of the subtropical environment. Integrate subtropical vegetation, structures and infrastructure.

Sensuous built environment
The cumulative effect of individual development and design decisions result in the ‘look and feel’ (character) of our built environment. Enact clear design parameters that, while
supporting diversity and innovation, ensure that streets, buildings and public spaces work together to foster a sense of place and recognise our subtropical environment.

4.0 Application of principles to built environment contexts

The purpose of this section of the design guidelines is to suggest which of the principles that have been developed may be most appropriate to the range of built environment contexts that were discussed in the description of the workshop process on page five. Each contextual system is introduced with a brief statement of the overall values that are considered important. This is followed by the specific principles, grouped first according to their priority, and then in relation to the values that they were developed from.

4.1 High Density Residential

Buildings providing high density living should be designed around open space and nature, rather than incorporating these elements as an afterthought or as left over space. Building heights and layouts should be arranged to allow for the penetration of natural elements into high density environments and to contribute to the landscape. High density residential living should support the outdoor based subtropical lifestyle through the incorporation of a variety of forms of open space, and through access to significant open space and water.

Priority principles

Locate high density near open space
Create an open and permeable built environment

Strong Presence of Nature

Identify and protect open spaces and waterways
Respect topography
Urban growth with increased tree cover
Foster tree planting and continuous vegetation
Built environment integrated with nature
Green walls and rooftop gardens
Balance building heights and vegetation

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Access to open space

Informal lifestyle

Informality

Sensuousness

Preserve visual delight
Sensuous built environment
4.2 Medium density residential

Compact medium density development is advocated as the most appropriate built form for subtropical environments due to its capacity to allow for vegetation to be incorporated into sites. Appropriately designed medium density housing will take advantage of existing topography and open space, incorporate a range of scales and heights in order to produce a varied landscape, reflect our traditions of informality and vernacular and be designed to incorporate trees and other vegetation. The ideal height for medium density is suggested to be two – four storeys, which is the approximate height of mature shade trees, thus allowing it to blend with vegetation.

Priority principles

Promote compact development
Create an open and permeable built environment
Balance building heights and vegetation

Strong Presence of Nature

Identify and protect open spaces and waterways
Respect topography
Urban growth with increased tree cover
Foster tree planting and continuous vegetation
Built environment integrated with nature

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Access to open space
Networks of open space

Informal lifestyle

Informality

Appropriateness of the vernacular

Vernacular character
Complement vernacular through design
Orientation

Sensuousness

 Preserve visual delight
Sensuous built environment
4.3 Low density residential

Low density residential development will incorporate of orientation to maximise the advantages of our climate, and will make appropriate use of the principles developed through the regions vernacular design to enable a sustainable lifestyle in this subtropical environment. Low density development will be integrated with nature through its extensive tree planting, access to open space, and permeability to natural elements.

Priority principles

Create an open and permeable built environment
Vernacular character
Urban growth with increased tree cover
Orientation

Strong Presence of Nature

Identify and protect open spaces and waterways
Respect topography
Foster tree planting and continuous vegetation
Built environment integrated with nature
Shaded streets and median strips

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Access to open space
Networks of open space

Informal lifestyle

Informality

Appropriateness of the vernacular

Vernacular character
Complement vernacular through design

Sensuousness

Preserve visual delight
Sensuous built environment
4.4 Centres

Centres in South East Queensland will incorporate shaded streets and outdoor areas, which are part of larger networks of outdoor space. They will be integrated with their natural surroundings and reflect local attitudes and lifestyles by being focused on outdoor use and informal layouts. Landscape design will highlight the sensuous nature of our vegetation through appropriate planting. The design of centres for this region should reflect local needs and concerns rather than simply importing models from other places.

Priority principles

Outdoor centres
Create an open and permeable built environment
Vernacular character
Shaded streets and median strips
Complement vernacular through design
Outdoor centres

Strong Presence of Nature

Identify and protect open spaces and waterways
Respect topography
Foster tree planting and continuous vegetation
Built environment integrated with nature
Locate high density near open space
Balance building heights and vegetation
Green walls and rooftop gardens

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Access to open space
Networks of open space

Informal lifestyle

Informality

Appropriateness of the vernacular

Vernacular character
Complement vernacular through design

Sensuousness

Preserve visual delight
Sensuous built environment
4.5 Open space

Open space will be networked and easily accessible, facilitating our outdoor based lifestyle and allowing for the penetration of natural elements into the built environment. The importance of water, landscape and topography will be recognised and celebrated within these networks of open space, and will blend in an integrated and harmonious manner with the built form through being a priority in the development and design process.

Priority principles

Access to open space
Networks of open space
Water in nature
Preserve the character of bay islands
Identify and protect open spaces and waterways
Respect topography

Strong Presence of Nature

Open space within development
Create an open and permeable built environment
Foster tree planting and continuous vegetation
Built environment integrated with nature
Locate high density near open space

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Promote compact development

Sensuousness

Preserve visual delight
Sensuous built environment
4.6 Urban – open space balance

Protecting the balance between the built and natural elements of our environment is essential to the character of the region. Our outdoor lifestyles, the health of our environment, and the constant sensuous presence of the natural world are all dependant upon this balance being an important aspect of design.

Priority principles

Networks of open space
Water in nature
Preserve the character of bay islands
Identify and protect open spaces and waterways
Respect topography
Foster tree planting and continuous vegetation
Open space within development

Strong Presence of Nature

Create an open and permeable built environment
Built environment integrated with nature
Urban growth with increased tree cover
Green transport corridors

Strong Presence of Water

Access to water
Design for water

Openness, Life Outdoors, Love of space

Diversity of outdoor places in developments
Community gardens
Promote compact development

Sensuousness

Preserve visual delight
Sensuous built environment
### 5.0 Summary of relationship of principles to context

<table>
<thead>
<tr>
<th>Context</th>
<th>Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Density</strong></td>
<td>Locate high density near open space, Create an open and permeable built environment, Identify and protect open spaces and waterways, Respect topography, Urban growth with increased tree cover, Foster tree planting and continuous vegetation, Built environment integrated with nature, Green walls and rooftop gardens, Balance building heights and vegetation, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Access to open space, Informality, Preserve visual delight, Sensuous built environment</td>
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<tr>
<td><strong>Medium Density</strong></td>
<td>Promote compact development, Create an open and permeable built environment, Balance building heights and vegetation, Identify and protect open spaces and waterways, Respect topography, Urban growth with increased tree cover, Foster tree planting and continuous vegetation, Built environment integrated with nature, Orientation, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Access to open space, Networks of open space, Informality, Vernacular character, Complement vernacular through design, Preserve visual delight, Sensuous built environment</td>
</tr>
<tr>
<td><strong>Low Density</strong></td>
<td>Create an open and permeable built environment, Vernacular character, Urban growth with increased tree cover, Orientation, Identify and protect open spaces and waterways, Respect topography, Foster tree planting and continuous vegetation, Built environment integrated with nature, Shaded streets and median strips, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Access to open space, Networks of open space, Informality, Vernacular character, Complement vernacular through design, Preserve visual delight, Sensuous built environment</td>
</tr>
<tr>
<td><strong>Centres</strong></td>
<td>Outdoor centres, Create an open and permeable built environment, Vernacular character, Shaded streets and median strips, Complement vernacular through design, Outdoor centres, Identify and protect open spaces and waterways, Respect topography, Foster tree planting and continuous vegetation, Built environment integrated with nature, Locate high density near open space, Balance building heights and vegetation, Green walls and rooftop gardens, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Access to open space, Networks of open space, Informality, Vernacular character, Complement vernacular through design, Preserve visual delight, Sensuous built environment</td>
</tr>
<tr>
<td><strong>Open Space</strong></td>
<td>Access to open space, Networks of open space, Water in nature, Preserve the character of bay islands, Identify and protect open spaces and waterways, Respect topography, Open space within development, Create an open and permeable built environment, Foster tree planting and continuous vegetation, Built environment integrated with nature, Locate high density near open space, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Promote compact development, Preserve visual delight, Sensuous built environment</td>
</tr>
<tr>
<td><strong>Urban – Open Space Balance</strong></td>
<td>Networks of open space, Water in nature, Preserve the character of bay islands, Identify and protect open spaces and waterways, Respect topography, Foster tree planting and continuous vegetation, Create an open and permeable built environment, Built environment integrated with nature, Urban growth with increased tree cover, Green transport corridors, Access to water, Design for water, Diversity of outdoor places in developments, Community gardens, Promote compact development, Preserve visual delight, Sensuous built environment</td>
</tr>
</tbody>
</table>
Appendix

Definition of terms

Values

The values are reflective of the key aspects of the SEQ subtropical environment that are of importance in relation to establishing desirable built form in the region. They form the underlying criteria for appropriate design in South East Queensland. They may be considered at a broad regional level, and also as having specific meanings at a sub-regional or contextual level.

Contextual settings

These elements of the natural and built environment were identified as being important for the articulation of more specific design principles. These are typical forms and patterns of urban development.

Principles

The principles relate subtropical values to built form. They provide a means of informing design at a range of scales and contexts encountered in the regional subtropical environment. These principles are important basic parameters for locally appropriate specific application and innovation.
Acknowledgements

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