Local Planning Policy 2.9: Environmentally Sustainable Design Considerations for Retail and Commercial Development

Objectives: Place

Outcome: 2.1 - A diverse, well planned built environment.

Strategy: 2.1.1 - Actively engage in the development and promotion of an effective planning framework.

Purpose

1. Increase community awareness and education, and encourage and facilitate stakeholders at all stages of the development process to consider sustainable design choices in new retail and commercial developments.
2. Provide provisions for environmentally sustainable design to be considered and addressed within new retail and commercial developments.
3. Allow for the effective evaluation and assessment of the environmental sustainability of new retail and commercial developments.
4. To improve the climate resilience of new retail and commercial developments within the Shire.

Scope

1. This policy applies to new proposed retail and commercial development within the Shire, which is proposed to exceed (in a single building) 1,000sqm of net lettable area.
2. This policy does not apply to:
   - any residential, industrial, civic or rural forms of development;
   - development undertaken by the Shire or Government agencies;
   - alterations and additions to existing retail and commercial development, irrespective of the size of such.

Policy Measures

1.0 Checklists

1.1 Environmentally Sustainable Design Checklists, based on the provisions of this policy, are to accompany all development applications for development coming within the scope of this policy. The checklist is provided as an attachment to the policy.

2.0 Lot and Building Orientation

2.1 The following design elements relating to building orientation should be fulfilled:

- Development should orientate openings to the north side where possible, depending on lot placement and street orientation. The northern aspects of buildings should include design elements such as adjustable sun breakers, louvres, awnings and/or grid shells, which can adjust to suit the time of year and/or need to capture or shield internal spaces from the sun;
- For the northern and eastern aspects of buildings, this should endeavor to include openings lined up with internal thermal mass walls or flooring, to help moderate internal

comfort levels throughout the year;

- For the south and west aspects of buildings, openings should be limited except where such provide the direct building orientation to the street. The imperative for street orientation and building relationship must be achieved at all times, and this policy does not seek to restrict such orientation and relationship from being delivered.

2.2 Frequently used daytime rooms, customer and worker spaces should be northerly oriented where possible, allowing for passive lighting and heating during winter months. Rooms for storage and building utility, or which require steady light for functional purposes, may be orientated south.

2.3 Northerly oriented windows having extended eaves overhanging 45% of the height between the window sill and eave, are preferred. Where punched windows are proposed, externally flexible louvre systems should be considered in order to provide acceptable performance to either block or let in desired sunlight levels.

2.4 Buildings should enable cross ventilation and cooling breezes, with openable windows, doors and/or vents at opposite building corners. Further to this, adjustable ceiling level venting systems should be included to expel hot air in the summer, which are closeable in the winter period to protect internal warmth.

3.0 Building Materials

3.1 The following design elements relating to building materials should be fulfilled:

- Buildings being constructed from materials which are from recycled or renewable sources, or which include elements of recycled or renewable sources as material constituents, or from production processes which offset carbon emissions in making building materials;
- Buildings being constructed from materials which assist thermal comfort and reduce the Urban Heat Island effect through low solar radiation absorbance;
- Roofing utilizing light colours, with a maximum solar absorptance rating of 0.4 for flat roofs and 0.5 for pitched roofs should be utilised;
- Low emissivity glass and/or double glazing with thermal breaks being utilised in windows to improve thermal conditions and minimise heat gain and loss.

3.2 Life Cycle Assessment

The following design elements relating to Life Cycle Assessment should be considered:

- A Life Cycle Assessment (LCA) of the proposed development, demonstrating the environmental performance of a proposed development throughout its life cycle;
- The LCA should be undertaken by a Life Cycle Assessor, or by an applicant or equivalent in accordance with international standards ISO14044 and EN15978;
- The LCA is to be submitted either in the form of an EN15978-compliant Life Cycle Assessment Report, or through equivalent means such as an eTool Assessment;
- The LCA should include, but not be limited to, the following elements:
  a. A quantified assessment of the carbon embodied in the lifecycle of the development, including manufacturing, transport, construction, operation, and end of life phases;

b. A demonstration of lifetime savings and targets for carbon reduction over the lifecycle of the development;

c. Justification that the targets set at the development application stage can be met through the future building and detailed design stages;

d. Operational strategies to be undertaken to meet the emissions reduction targets.

4.0 Energy Efficiency

Developments exceeding 1000sqm of net lettable area should achieve either:

- a 5-star energy rating, in accordance with the Green Building Council of Australia; or
- the following design aspects:
  a. Energy efficient electric appliances;
  b. Heat pump hot water systems or solar hot water systems;
  c. Rooftop Solar Photovoltaics (PV) and battery systems;
  d. LED lighting, timed lighting, solar lighting, and skylights;
  e. Electric vehicle charging points;
  f. Thermal insulation within walls, roofs, and floors, and/or roof sarking to improve thermal performance;
  g. Energy monitoring to track performance.

5.0 Water efficiency

Water runoff from roof and carparking structures, should be captured through combination of above or below ground storage systems or rain gardens. Captured water is preferred to be re-used through non potable building operations including reticulation and direct plumbing to ablutions.

References

Name of Policy	Local Planning Policy: Environmentally Sustainable Design Considerations for Retail and Commercial Development
Previous Policy	
Date of Adoption and Resolution Number	
Review dates and Resolution Numbers	
Next review date	
Related documents	**Acts/Regulations** • *Local Government Act 1995 Planning and Development Act 2005* • *Planning and Development (Local Planning Schemes) Regulations 2015* • *Building Act 2011* **Plans/Strategies** • Strategic Community Plan 2017 - 2027 **Policies** • State Planning Policy 7.3 Residential Design Codes Volume 1 **References** **Delegations** **Work Procedures**

Note: changes to references may be made without the need to take the Policy to Council for review.

Attachment 1. Environmentally Sustainable Design Checklist

Property					
Lot number:		Street Number:		Location Number:	
Street name:			Locality:		
Reference Number:					
Applicant					
Landowner/s:					
Contact person:					
Contact email:			Contact phone:		
Address:					

Item	Provision	Complete	Incomplete	Comments
Lot and Building Orientation				
1	Development orientates openings to the north side where possible, depending on lot placement and street orientation. The northern aspects of buildings include design elements such as adjustable sun breakers, louvres, awnings and/or grid shells, which can adjust to suit the time of year and/or need to capture or shield internal spaces from the sun.	☐	☐	
2	The northern and eastern aspects of buildings endeavor to include openings lined up with internal thermal mass walls or flooring, to help moderate internal comfort levels throughout the year.	☐	☐	
3	Openings on the south and west aspects of buildings are limited except where such provide the direct building orientation to the street. The imperative for street orientation and building relationship is achieved at all times.	☐	☐	
4	Frequently used daytime rooms, customer and worker spaces are northerly oriented where possible, allowing for passive lighting and heating during winter months. Rooms for storage and building utility, or which require steady light for functional purposes are orientated south.	☐	☐	
5	Northerly oriented windows have extended eaves overhanging 45% of the height between the window sill and eave. Where punched windows are proposed, externally flexible louvre systems are considered in order to provide acceptable performance to either block or let in desired sunlight levels.	☐	☐	
6	Buildings enable cross ventilation and cooling breezes, with openable windows, doors and/or vents at opposite building corners. Further to this, adjustable ceiling level venting systems are included to expel hot air in the summer, which are closeable in the winter period to protect internal warmth.	☐	☐	

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Local Planning Policy 2.9: Environmentally Sustainable Design Considerations for Retail and Commercial Development

Building Materials				
7	Buildings are constructed from materials which are from recycled or renewable sources, or which include elements of recycled or renewable sources as material constituents, or from production processes which offset carbon emissions in making building materials.	☐	☐	
8	Buildings are constructed from materials which assist thermal comfort and reduce the Urban Heat Island effect through low solar radiation absorbance.	☐	☐	
9	Roofing utilizes light colours, with a maximum solar absorptance rating of 0.4 for flat roofs and 0.5 for pitched roofs.	☐	☐	
10	Low emissivity glass and/or double glazing with thermal breaks is utilised in windows to improve thermal conditions and minimise heat gain and loss.	☐	☐	
Life Cycle Assessment				
11	A Life Cycle Assessment (LCA) has been completed and submitted.	☐	☐	
Energy Efficiency				
12	The development achieves a 5-star energy rating, in accordance with the Green Building Council of Australia	☐	☐	
13	Dwellings incorporate energy efficient electric appliances	☐	☐	
14	Heat pump hot water systems or solar hot water systems are incorporated.	☐	☐	
15	Rooftop solar PV and battery systems are incorporated	☐	☐	
16	LED lighting, timed lighting, solar lighting, and skylights are incorporated.	☐	☐	
17	Electric vehicle charging points are incorporated.	☐	☐	
18	Thermal insulation within walls, roofs, and floors, and/or roof sarking is utilized.	☐	☐	
19	Energy monitoring is utilized.	☐	☐	
Water Efficiency				
20	Water runoff from roof and carparking structures, should be captured through combination of above or below ground storage systems or rain gardens. Captured water is preferred to be re-used through non potable building operations including reticulation and direct plumbing to ablutions.	☐	☐	