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TABLE 1: SUSTAINABILITY CRITERIA

**1. PURPOSES**

1.1 The purposes of this Policy are to:

- a) Set criteria and improve sustainable design of single houses, grouped dwellings, multiple dwellings and mixed use development; and
- b) Provide local Design Guidance for applications seeking an assessment against Element 4.15: Energy Efficiency of Volume 2 of the Residential Design Codes (R-Codes).

2. APPLICATION OF POLICY

2.1 This policy applies to all new development where it includes single houses, grouped dwellings, and/or multiple dwellings within the City of Nedlands Local Planning Scheme No. 3 area.

2.2 Section 5 applies to all new residential development.

2.3 Section 6 applies to all new single houses and grouped dwellings.

2.4 Section 7 applies to all new multiple dwellings and mixed-use development assessed under Volume 1 of the R-Codes.

2.5 Section 8 applies to all new multiple dwellings and mixed-use development assessed under Volume 2 of the R-Codes.

3. RELATIONSHIP TO OTHER POLICIES AND LEGISLATION

3.1 This Policy has been prepared under Clause 4 of the Deemed Provisions of Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015.

3.2 This Policy should be read in conjunction with the following planning instruments, and its requirements apply unless specifically stipulated elsewhere in any of the below:

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *City of Nedlands Local Planning Scheme No. 3*

3.3 Where this Policy is inconsistent with a lower sustainability standard within a Local Development Plan or Local Planning Policy, this Policy prevails.

4. OBJECTIVES

4.1 To ensure that new development is constructed and functions in an environmentally sustainable manner, with a focus on minimising environmental impact, maximising resource efficiency and reducing or

eliminating reliance on non-renewable energy without undue detrimental impact on the amenity of the locality.

- 4.2** To require design features that assist in reducing the urban heat island effect, provide alternate forms of transportation, and positively impact occupant health.

5. ALL DEVELOPMENT

This section applies to all new development with a residential component (including new standalone ancillary dwellings) but excludes additions and alterations to existing developments.

- 5.1** To reduce the urban heat island effect, roof structures (excluding solar roofs and the like) are to have the following maximum solar absorptance ratings (refer to manufacturer's specifications) unless otherwise required by a specific local planning policy, local development plan, structure plan, or the colours would be inconsistent with the heritage requirements of a heritage-protected place:

- a) Metal flat roofs that are not visible from the street or adjacent properties: 0.4.
- b) Metal pitched roofs or metal roofs that are visible from the street or adjacent properties: 0.5.
- c) Tiled roof structures: 0.58

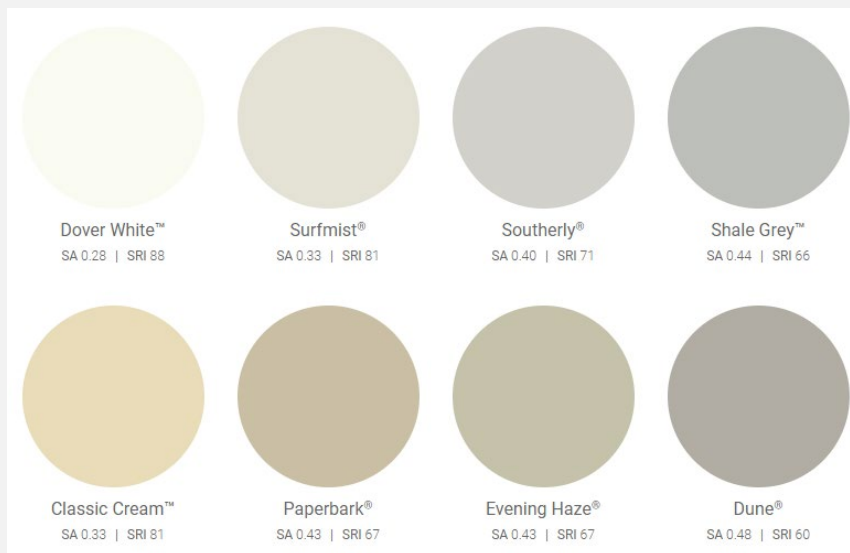


Figure 1: Sample metal (Colorbond) colours with a solar absorptance rating maximum of 0.5*



Figure 2: Sample tile colours with a solar absorptance rating maximum of 0.58*

**Colours are indicative only and may vary by manufacturer. Manufacturer’s specifications are to be provided demonstrating roof colour and material achieves the solar absorptance criteria.*

5.2 Notwithstanding cl. 5.1 above, where a new ancillary dwelling or similar standalone building is constructed on a lot that contains an existing house, the roof colour of the ancillary dwelling or standalone building may match the existing house.

6. SINGLE HOUSES AND GROUPED DWELLINGS

This section applies to all new single houses and grouped dwellings but excludes additions and alterations to single houses and grouped dwellings.

- 6.1** Each new dwelling (excluding ancillary dwellings) shall be provided with a minimum 3kw photovoltaic solar panel system.
- 6.2** All water fittings such as taps, toilets and showers (excluding kitchen sinks and laundries) are to be within 1 star of the maximum Water Efficiency Labelling Standard (WELS) rating as per No. 13 in Table 1 of this Policy.
- 6.3** Grouped dwellings are to include landscaping plans demonstrating achievement of No. 14: Irrigation Efficiency in Table 1 of this Policy.
- 6.4** Grouped dwellings proposing 4 or more dwellings shall demonstrate achievement of No. 17: Sustainable Transport – Infrastructure in Table 1 of the Policy.
- 6.5** Grouped dwellings proposing 4 or more dwellings shall include a sustainability report by a suitably qualified practitioner demonstrating how the development achieves Design Principle 5: Sustainability from State Planning Policy 7.0.



7. MIXED USE AND MULTIPLE DWELLINGS UNDER R-CODES VOLUME 1

This section applies to all new mixed use and multiple dwellings assessed under Volume 1 of the R-Codes but excludes additions and alterations to mixed use or multiple dwellings.

7.1 All development is to achieve the following from Table 1 of this Policy:

- 8) Urban Heat Island
- 13) Water Use
- 14) Irrigation Efficiency
- 17) Sustainable Transport – Infrastructure

Plus any two measures of the proponent’s choice from Table 1 of this Policy which relate to the type of development proposed.

7.2 For developments of greater than 10 dwellings, an additional requirement applies that at least one of the following from Table 1 of this Policy must be achieved:

- 2) Building Envelope Pressure Testing
- 3) Embedded Meter Network
- 5) Exhaust of Pollutants
- 6) Toxicity and Indoor Environment
- 9) Upfront Carbon
- 11) Energy Source
- 18) Sustainable Transport Car Share
- 19) NatHERS

7.3 All development shall include a sustainability report by a suitably qualified practitioner demonstrating how the development achieves Design Principle 5: Sustainability from State Planning Policy 7.0.

8. MIXED USE AND MULTIPLE DWELLINGS UNDER R-CODES VOLUME 2

This section applies to all new mixed use and multiple dwellings assessed under Volume 2 of the R-Codes but excludes additions and alterations to mixed use or multiple dwellings. The criteria below augments the Design Guidance of Clause 4.15 of the R-Codes Volume 2 by providing local objectives for housing design and development, and are the local government’s preferred methods of achieving the Objectives.

8.1 For development with a cost of \$15 million and above, the Acceptable Outcome of Element 4.15 is considered to be achieved through a minimum 5-star Green Star certification. Equivalent alternative sustainability assessment certification may be considered where they are nationally or internationally recognised, compliant with applicable Australian or international standards and subject to oversight by a certifying body.



8.2 For development costing less than \$15 million, the items in green in Table 1 of this Policy are preferred Design Guidance options.

8.3 All development shall include a sustainability report by a qualified practitioner demonstrating how the development achieves Design Principle 5: Sustainability from State Planning Policy 7.0.

9. VARIATIONS TO THIS POLICY

9.1 Variations to this policy will be assessed against the objectives of this policy.

Council Resolution Number	PD08.02.24
Adoption Date	27 February 2024
Date Reviewed/Modified	

Table 1: Sustainability Criteria

Feature	Type of Development	Design Implications	Verification / Demonstration	Development Application Stage Requirement	Building Permit Stage Requirement	Practical Completion (Prior to Occupancy)
1) Performance Targets	Residential development with strata-controlled areas	Minimal	A) Achieve minimum 5.0 NABERS rating. OR B) Proponent to set operational performance targets for gas and electricity usage. Usage to be below the current year <i>WA Average Energy Intensity By Space Use Type</i> set out by the <u>Commonwealth Government</u> . It shall also be demonstrated how usage will be managed in operation.	A) For NABERS: Copy of executed Commitment Agreement between developer and NABERS OR B) Commitment from proponent and condition of approval.	A) For NABERS: Copy of NABERS report provided to the City. OR B) Project targets to be submitted with Building Permit Application. This shall also include the measurement strategy.	Verification that measurement systems are in place.
2) Building Envelope Pressure Testing	> 10 dwellings	Minimal	Project teams would be required to test building envelope pressure on at least 10% of dwellings prior to practical completion in accordance with Section J of the NCC, J1V4. Apartments must	Commitment from proponent and condition of approval.	Commitment from proponent.	Provide Building Envelope pressure test report.

			achieve no more than 10m ³ /hr.m ² @ 50Pa.			
3) Embedded Meter Network	>10 dwellings	Embedded meter network with energy monitors capable of tracking individual units.	Proponent is to demonstrate an embedded meter network including private meters tracking energy performance for apartments and major building uses.	Commitment from proponent and condition of approval.	Single line drawings for electrical and water services showing meter provisions.	Commissioning report, including verification of meter operation.
4) Natural Ventilation	Development with a residential component	Ensure all bedrooms, kitchens and living areas comply with AS1668.4 for direct natural ventilation. Ensure all rooms which are likely to be occupied have openable windows.	Show air circulation on plans. Require suitably qualified practitioner to certify compliance in accordance with AS1668.4.	Commitment from proponent and condition of approval.	Specific certification of compliance with AS1668.4 by mechanical engineer.	
5) Exhaust of Pollutants	All development	Provide ducted exhaust for all kitchens, laundries and toilets to the outside of the building. No recirculating hoods to be used.	Require suitably qualified practitioner to certify compliance in accordance with AS1668.4. <i>For non-residential:</i> General exhaust at the rate of 0.5 l/s per m ² of occupied space of 3,000 l/s for any food tenancy.	Commitment from proponent and condition of approval.	Specific certification of compliance with AS1668.4 by mechanical engineer or suitably qualified practitioner.	

			Discharge is to be fully compliant with AS 1668.2			
6) Toxicity and Indoor Environment	All development	Select products for internal finishes with low volatile organic compounds (VOC) and formaldehyde ratings.	<p>Schedule of finishes including VOC / formaldehyde levels are to be submitted for all joinery, floor coverings, and paints.</p> <p>Applicants to demonstrate the following:</p> <p>a) 95% of painted surfaces are to be low VOC as defined by the Australian Paint Approval Scheme (APAS), being 49 g/L or less.</p> <p>b) Carpets are to have a maximum VOC limit of 0.5 mg/m² per hour with a 4-PC limit of 0.05 mg/m² per hour.</p> <p>c) low-formaldehyde joinery a minimum of E1 (less than 1 m/L).</p>	Commitment from proponent and condition of approval.	<p>Proponent to submit schedule of finishes and certification demonstrating low VOC/formaldehyde levels.</p> <p>Where products have specific adhesive / sealant requirements (e.g. Corrian) also demonstrate compliance for these products.</p>	As-installed data sheets for paints, carpets, resilient flooring, timber flooring and joinery.

7) Amenities	>30 bedrooms	Provide a minimum of 10m ² floor area of amenity space per residential occupant (ie: Number of bedrooms).	Provide a space (or spaces) within the building for use by occupants to promote community and wellbeing. Spaces should be: * Freely accessible * Naturally ventilated and air conditioned * Compliant with AS 2107 (Acoustics) for apartments * Designated to promote physical and mental health and wellbeing (i.e. meditation rooms, gyms, external delineated recreation space) * Maintained by strata complex	Calculation of occupants (based on bedrooms), location and description of spaces within the development.	Drawings demonstrating provision of space. Verification from acoustic consultant of compliance with AS 2107.	Installed prior to occupation
8) Urban Heat Island	All development	Utilise light finishes, incorporate landscape within the design, and avoid unshaded parking areas.	Proponents are to demonstrate that at least 75% of their site area, when viewed from directly above, is comprised of: a) Vegetation and green roofs b) Light roofs (3 Year solar reflectivity index (SRI)>64 for a flat roof and >34 (pitched roof) c) Shaded or light	Marked up site plan demonstrating compliance and condition of approval.	Marked up site plan demonstrating compliance.	Marked up site plan demonstrating compliance with supporting photos for each relevant area.

			<p>landscaping (3 Year SRI > 34)</p> <p>d) Water bodies and/or water courses (excluding pools)</p> <p>e) Solar PV or thermal collectors</p>			
9) Upfront Carbon Reduction	>10 dwellings	Employ a Life Cycle Assessment (LCA) professional to demonstrate the building's upfront carbon emissions are at least 20% less than those of a comparative reference building - including any demolition works.	<p>Provide a report demonstrating performance meets 20% reduction from baseline performance.</p> <p>Report is to have been peer reviewed and is to include a clear list of design and construction assumptions made to achieve performance.</p>	<p>Initial target-setting report as prepared and peer reviewed by the LCA.</p> <p>Condition of approval.</p>	Completed report with feature list. Report is to be certified for compliance by suitably qualified professionals and demonstrate that the physical features and services design have been included in the building.	Certification that the report recommendations been implemented. Where proposed compliance path has changed, provide a new, peer reviewed support and new features list for certification.
10) Energy and Water Use	Pool in development	Ensure any pool is provided with automated pool blanket.	Provide an automated pool blanket to cover all pools when not in use. Pool blanket must comply with NCC Section J performance requirements.	Shown on plans and condition of approval.	Design documentation to include pool blanket.	Commissioning report confirming operation of blanket.
11) Energy Source	All development	Avoid any fossil fuel use on site.	No gas is to be used within the development. Small allowance for BBQs and commercial kitchens.	Commitment from proponent	Statement from building certifier and no gas fixtures shown on plans.	

			Diesel for fire systems is allowable.	and condition of approval.	Certification of extent of gas use on site by hydraulic engineer.	
12) Renewable Energy	> 30 bedrooms	<p>Provide sufficient on-site renewable generation to equate to net zero energy use for common facilities such as:</p> <ul style="list-style-type: none"> - Lights - Lifts - Pools - Car Park lighting and ventilation - Amenities <p>Not applicable to small power, air conditioning and lighting within apartments and commercial tenancies.</p>	<p>Suitably qualified professional to provide an estimate of operating energy for development common areas and demonstrate sufficient solar (PV) to balance annual usage.</p> <p>Energy estimate does not require a dynamic 3D model. Consumption to be based on rated power draw and anticipated run times. A suitable diversity factor can be applied.</p> <p>Show solar panels or other renewable generation on site. Allow at least 1m² of unshaded panel per apartment.</p>	<p>Show solar panels on drawings. Provide energy rate and consumption estimates.</p> <p>Condition of approval.</p>	<p>Calculation and certification from sustainability consultant demonstrating expected generation potential and likely common area power draw.</p>	<p>Solar panels installed prior to occupation</p>

13) Water Use	All development	Utilise low flow taps, toilets and showers for all sanitary tapware (kitchen sinks and laundries are excluded).	Design teams are to provide WELS certificates demonstrating fittings are within 1 star of the maximum WELS rating.	Commitment from proponent and condition of approval.	Provision of fixtures schedule with WELS certificates.	Confirmation of installation.
14) Irrigation Efficiency	All development	<p>Waterwise landscaping to be implemented, including:</p> <p>a) Avoiding large areas of turf.</p> <p>b) Using sub-soil drip irrigation for all planting requiring irrigation.</p> <p>c) Providing automatic moisture sensing for irrigation control.</p> <p>d) Diverting rainfall to irrigate any planting in rain shadows or under-cover.</p>	Landscaping details to include information on details such as drip irrigation, timers, and appropriate plant selection. Waterwise plant species are to be used, with a preference for natives where appropriate.	Landscaping plan to form part of approval.	Irrigation design drawings shown on the building permit.	Demonstration that landscaping plan has been implemented.

15) Active Living Support	Development with a non-residential component	Provide secure bike parking, showers and lockers for commercial staff on site.	Proponent to demonstrate provision of amenities for staff, which is to include: a) 5 Staff for café / F&B tenancy b) 1 Person per 15m2 for office tenancies c) 1 shower per 50 staff. d) 1 locker per 8 Staff e) 1 bike rack per 10 staff	Show staff amenities on plans.	Show staff amenities on plans.	Installed prior to occupation
16) Bike Storage	Development with a residential component	Provide at least one bike park per dwelling. Bike parking may be communal or located within apartment stores, however, an AS 2970 compliant rack must be provided at completion. Where bike parking is included in apartment stores, increase store area by 1m ² to accommodate bike.	Design team to show bike parking provisions on drawings.	Shown on plans and included as condition of approval.	Shown on plans	Installed prior to occupation
17) Sustainable Transport – Infrastructure	All development	Comply with NCC 2022 provisions for electric vehicle parking now. (NB: This	Compliance certification as part of electrical or sustainability CDC demonstrating the	Show nominated EV provisions, including board locations.	Certification of compliance. Identification of elements on plans and	Installed prior to occupation

		option expires when NCC 2022 comes into full effect)	development meets NCC 2022 for spatial and performance allowances for EV chargers.	Condition of approval.	on electrical single line drawings.	
18) Sustainable Transport – Car Share	>10 dwellings OR Non-residential	Provide a vehicle and bay for ride share scheme.	1 dedicated share bay per 20 dwellings or part thereof over 10 to facilitate a ride share scheme. For non-residential: 1 ride share bay and vehicle per 2000m ² over 1,000m ² .	Show bays and waiting area. Details of ride share scheme to be included such as how it will be implemented and maintained.	Drawings showing bays, waiting area(s) and proposed signage.	Bays are line-marked and signed. Appropriate number of shared bays are provided. Details of scheme to be adhered to for the life of the development.
19) NatHERS	Development with a residential component	All dwellings exceed the minimum NatHERS requirement (in reference to the lower benchmark of the NCC) for apartments by 0.5 stars based on the NCC 2022 standard or a more recent standard.	All dwellings exceed the minimum NatHERS requirement (in reference to the lower benchmark of the NCC) for apartments by 0.5 stars based on the NCC 2022 standard or a more recent standard.	Demonstrate indicative star rating at application stage. Condition of approval.	Demonstrate achievement through certified star rating with building documentation.	
20) Water Management	All development	Water re-use system to be installed.	Rain and storm water collection and re-use for irrigation or grey water.	Re-use system to be shown on plans. Condition of approval.	Tanks shown on plans. Grey water systems may require separate approval from City's EHOs.	Installed prior to occupation

