DIPL Sustainability Minimum Design Standard (MDS)

Document title	DIPL Sustainability Minimum Design Standard (MDS)
Approved by	DIPL General Manager Infrastructure, Investment and Contracts
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Version	Date	Author	Changes made
1.0	23 March 2021	J. Kieboom	
1.1	5 July 2021	J. Kieboom	Various improvements to Sections 2 and 4
2.0	1 December 2021	J. Kieboom	NCC2016 Sect. J replaced with NC2019 Sect. J; min. wall R-Values reduced; & shaded uninsulated wall exemption removed
3.0	15 March 2022	J. Kieboom	Sect. J Compliance Threshold to only apply to envelopes; Removal of exemption from separate lighting and appliance metering
4.0	27 August 2024	J. Kieboom	Section J Compliance Threshold and requirements for projects under the threshold removed. Scope expanded to roof and wall replacements. JV3 and documentation sections added.

Acronyms	Full form
ABCB	Australian Building Codes Board
DIPL	Department of Infrastructure, Planning and Logistics (NT Government)
ESD	Environmentally Sustainable Design (acronym also used to represent Ecologically Sustainable Development)
NCC	National Construction Code
MDS	DIPL Minimum Design Standard

1.0 Scope

1.1 This Standard applies to all NT Government owned non-residential NCC Class 3 and 5-9 building works involving:

- New or extended conditioned envelopes and related mechanical, electrical and hydraulics building services; or
- Air conditioning of previously unconditioned area(s); or
- Wall, window and roof replacements within conditioned areas.

Where the aggregate volume of the proposed alteration/extension and any other alterations/extensions made within the previous 3 years exceed 50% of the volume of the existing building, the entire building must be upgraded to this standard, otherwise this standard applies to the area of works only.

Repair works following fire, wind, storm, flood, cyclone or other natural disaster event do not count towards the 50% threshold.

The DIPL Sustainable Design Strategy Minimum Design Standard exemption approval process enables review of implementation of these requirements.

2.0 NCC Section J Compliance

2.1 From 1 October 2023, NCC Section J applies to all new non-residential Class 3 and 5-9 buildings in Northern Territory declared building control areas.

DIPL require that all projects commenced after this time comply with the requirements of NCC2019 Section J, regardless of location.

2.2 DIPL require that design teams and building certifiers achieve and verify NCC Section J compliance.

2.3 All new or extended building envelopes must comply with the requirements of Section J **AND** Section 3 of this standard.

2.4 Wall and roof replacements within an existing conditioned envelope must meet the Section J minimum R-Value requirements and DIPL's vapour barrier requirements.

3.0 Additional Building Envelope Requirements

Orientation **3.1** Building long walls must face north and south (+/- 22.5 degrees).

Roofs **3.2** Roof R-value calculations are not to assume an air gap between vapour barriers and roof cladding.

24/7 Blockwork Walls **3.3** All external blockwork walls in 24 hour air conditioned buildings must have an external AS4200.1 heavy duty Class 1 vapour barrier.

Glazing Shading **3.4** Use sun path modelling to ensure that the following conditions are met:

South of the Tropic of Capricorn

No direct radiation enters through glazing between 9am and 3pm from September 1 to April 30.

Direct sun penetration is encouraged from May 1 to August 31.

Shading images of each façade must be submitted for 9am and 3 pm on 21 January and April 30.

North of the Tropic of Capricorn

No direct radiation enters glazing between 9am and 3pm at any time of the year.

Shading images for each façade must be submitted for: 9am and 3pm on 21 January and 21 June.

4.0 JV3 Pathway Requirements

4.1 The JV3 Section J compliance pathway must be used for NCC Class 3, 9a ward areas or 9c buildings to assess the potential reduction in wall R-Values (and construction costs) by increasing roof R values.

4.2 A cost analysis and JV3 modelling must be provided as part of the ESD Compliance Report.

5.0 Documentation Requirements

5.1 An ESD Compliance Report must be submitted with documentation for each design phase that contains:

Schematic design	Roof and facade NCC Section J compliance requirements and the compliance path to be taken (eg. Deemed To Satisfy or JV3).
50% Design development	Wall and roof cross-sectional sketches depicting planned wall and roof layers to achieve Section J and DIPL vapour barrier requirements.
75% Design development	Verification: • That design documents have been checked for building envelope Section J compliance; and • Documentation gaps to be actioned by design team have been identified and formally recorded. Provision of sun path modelling diagrams and verification that clause 3.4 requirements are met. Where relevant, provision of completed ABCB Façade Calculator, Lighting Calculator

	and Fan System Calculator and Pump System Calculator spreadsheets.
Contract documentation	Verification by the building certifier that the building envelope and building services documentation contain sufficient details to enable construction to be NCC Section J compliant. Statement of compliance from the Design Team and Building Certifier confirming compliance with this standard.