

Sustainable Design Standard

Project Summary Templates

TAFE NSW would like to pay our respect and acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of the Land, Rivers and Sea. We acknowledge and pay our respect to the Elders; past, present and emerging of all Nations.

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This document was commissioned by TAFE NSW and prepared by D Squared Consulting Pty Ltd.

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This document is a design standard only. The project team retains responsibility for the coordination, design and delivery of the project, including taking all reasonable steps to make sure that the project complies with all applicable Australian Standards required by the NCC, WHS Legislation, Statutory planning approval processes, TAFE NSW Procedures & Policies, and all other relevant statutory requirements.

REV	ISSUE DATE	ISSUE	AMENDMENTS SINCE PREVIOUS ISSUE
A	11/11/2022	1	n/a
B	3/02/2023	For approval	Restructured content
C	7/06/2023	Final	Cleaned up formatting and labelling for web upload. Removed duplicate info in medium projects tables

Appendix B

B. Project Summary

Small Projects

The following summary must be completed at each major reporting milestone (e.g. Concept Design, Schematic Design, Detailed Design). Mark TBC if requirements are not applicable at the reporting stage (e.g. WELS and Energy Star ratings will not be known during concept design).

Project Name:	Approved by:
Reporting stage:	Date approved:
Completed by:	
Date completed:	

Initiative	Small projects	Achieved (Y/N)	Project response
ESD Scope/Consultant	Mandatory ESD in Designer/ Architect Scope		Summarise ESD scope developed for the project:
Climate change risk assessment undertaken (refer appendix A)	Mandatory		Enclose completed Climate Change Risk Assessment.
Energy efficiency improvement (above latest applicable version of the NCC or energy ratings)	Mandatory Energy efficiency requirements in specifications met for lighting, HVAC and appliances		Summarise energy efficiency priorities: Lighting efficiency (W/m2): HVAC efficiency (COP/EER or Energy Rating): Appliance energy ratings: Dishwashers: Washing Machines: Fridges: Freezers:
Passive design	Mandatory When building envelope/fabric in scope External shading review undertaken + double glazing incorporated as a minimum.		

B. Project Summary

Small Projects

Initiative	Small projects	Achieved (Y/N)	Project Response:
Onsite renewable energy assessed to determine opportunity	Recommended Incorporate if budget permits		Summarise review of renewable energy potential:
All-electric designs	Recommended Hot water and heating should be all-electric		
CO ₂ monitoring and automatic fresh air provisions for ventilation systems	Mandatory If HVAC in scope - Automatic fresh air provisions or alert to open windows acceptable (if applicable)		
Pandemic responsive HVAC design incl. 100% fresh air flush	Recommended To be considered as part of HVAC design if applicable		Summarise pandemic responsive design considerations:
Low/Zero GWP Refrigerants	Mandatory Low GWP in line with specifications		Refrigerant type: GWP: ODP: Charge (kg): Leakage rate:
Water conservation	Mandatory		Summarise water conservation measures:

B. Project Summary

Small Projects

Initiative	Small projects	Achieved (Y/N)	Comments
15% potable water use reduction compared to standard design	Mandatory Water efficiency requirements in specifications met		Confirm WELS rating (as applicable): : Taps: Toilets: Urinals: Showers: Dishwashers: Washing machines:
Construction and Demolition Waste Diversion	Mandatory		Summarise waste to landfill reduction opportunities incorporated e.g. recycling or donating furniture):
Operational Waste Assessed and minimum 3 waste streams incorporated (landfill, recycling, organics)	Mandatory		Summarise operational waste reduction opportunities incorporated:
ESD Specifications	Mandatory		
Built environment as a learning tool	Mandatory Incorporate options for the works to be used as a learning tool such as information on materials, energy monitoring displays, and passive design features		Summarise learning opportunities integrated into the works:

B. Project Summary

Medium Projects

The following summary must be completed at each major reporting milestone (e.g. Concept Design, Schematic Design, Detailed Design). Mark TBC if requirements are not applicable at the reporting stage (e.g. WELS and Energy Star ratings will not be known during concept design).

Project Name:	Approved by:
Reporting stage:	Date approved:
Completed by:	
Date completed:	

Initiative	Medium projects	Achieved (Y/N)	Project response
ESD Scope/Consultant	Mandatory ESD in Architect/ Engineer Scope. Independent ESD consultant recommended		Summarise ESD scope developed for the project:
Climate change risk assessment undertaken (refer appendix C)	Mandatory		Enclose completed Climate Change Risk Assessment.
Energy efficiency improvement (above latest applicable version of the NCC or energy ratings)	Mandatory Energy efficiency requirements in specifications met for lighting, HVAC and appliances		Summarise energy efficiency priorities: Lighting efficiency (W/m2): HVAC efficiency (COP/EER or Energy Rating): Appliance energy ratings: Dishwashers: Washing Machines: Fridges: Freezers:
Onsite renewable energy assessed to determine opportunity	Recommended Incorporate if budget permits		Summarise review of renewable energy potential:

B. Project Summary

Medium Projects

Initiative	Medium projects	Achieved (Y/N)	Project response
Net zero plan demonstrating how the building will transition to zero emissions	Recommended Recommended for net zero transition planning		Summarise net zero considerations:
Life Cycle Assessment (LCA) – Embodied emissions reduction	Recommended Recommended for adaptive reuse of buildings to demonstrate embodied emission reduction		
Passive design	Mandatory When building envelope/fabric in scope External shading review undertaken + double glazing incorporated as a minimum.		Summarise passive design features:
Energy modelling to optimise the design and improve performance	Mandatory When building envelope/fabric is in scope and Section J triggered.		
Daylight and thermal comfort modelling in line with Green Star/WELL	Mandatory When building envelope/fabric is in scope and Section J triggered.		
Energy efficiency improvement (above latest applicable version of the NCC or energy ratings in specifications)	Mandatory >10% - Demonstrated JV3 modelling or comparison of DtS compared to proposed systems/services (e.g. lighting and air conditioning)		
Onsite renewable energy assessed to determine opportunity	Mandatory		

B. Project Summary

Medium Projects

Initiative	Medium projects	Achieved	Project response (Y/N)
Renewable electricity via onsite renewables compared to project energy demand	Recommended Renewable energy assessment to be reviewed against project scope and incorporated if budget permits. Aim to meet estimated energy demand with onsite renewables.		
All-electric building services	Mandatory Heating, hot water and cooktops all-electric (excl. teaching related plant and equipment)		
Energy metering	Mandatory Per floor HVAC, lighting, power minimum		
Water metering	Mandatory Mains supply to refurbishment and end of trip (if applicable) minimum		
CO ₂ monitoring and automatic fresh air provisions for ventilation systems	Mandatory When HVAC system upgrades in scope		
Pandemic responsive HVAC design incl. 100% fresh air flush	Mandatory When HVAC system upgrades in scope		
50% fresh air provision improvement over AS1668.2	Mandatory When HVAC system upgrades in scope		

B. Project Summary

Medium Projects

Initiative	Medium projects	Achieved (Y/N)	Project response
Increased air filtration to reduce air pollution (incl. bushfire smoke)	Mandatory When HVAC system upgrades in scope		
Air permeability testing in line with ATTMA/JV4 Target rate: 3m ³ /m ² /hr @50 Pa. Maximum 5m ³ /m ² /hr @50 Pa.	Recommended When building envelope/fabric is and Section J triggered or whole floor/compartiment in scope		
Low/Zero GWP Refrigerants in line with specifications	Mandatory Low/zero GWP		Refrigerant type: GWP: ODP: Charge (kg): Leakage rate:
End of trip facilities (Bicycle racks, showers, lockers) Metrics based on regular building occupants	Recommended Recommended for inclusion if no end of trip facilities available in the building or adjacent facilities		
Electric vehicle (EV) charging stations (if car parks in project scope)	Recommended To be incorporated if budget permits		
Water conservation	Mandatory		Summarise water conservation measures:
15% potable water use reduction compared to standard design	Mandatory Demonstrated using Green Star Calculator		Enclose Green Star Potable Water Calculator
30% potable water use reduction (Green Star Potable Water Calculator to be used)	Recommended When project includes external works, landscaping and irrigation		

B. Project Summary

Medium Projects

Initiative	Medium projects	Achieved (Y/N)	Project response
50 % potable water use reduction (Green Star Potable Water Calculator to be used)	Recommended When refurbishment includes external works, landscaping and irrigation AND building connected to alternative water		
Construction and Demolition Waste Diversion	Mandatory		Summarise waste to landfill reduction opportunities incorporated e.g. recycling or donating furniture):
Construction and Demolition Waste Management Plan	Mandatory >80% landfill diversion		
Operational Waste Assessed and minimum 3 waste streams incorporated (landfill, recycling, organics)	Mandatory		Summarise waste to landfill reduction opportunities incorporated e.g. recycling or donating furniture):
Operational Waste Management Plan with specialist waste streams	Mandatory		Summarise operational waste reduction opportunities incorporated, including plan drawing of bin locations and collection points:
Air quality testing to confirm VOC and formaldehyde levels	Mandatory		
ESD Specifications	Mandatory		
Built environment as a learning tool	Mandatory Refurbishments should incorporate options for the works to be used as a learning tool such as information on materials, energy monitoring displays, and passive design features		Summarise learning opportunities integrated into the works:

B. Project Summary

Large Projects

The following summary must be completed at each major reporting milestone (e.g. Concept Design, Schematic Design, Detailed Design). Mark TBC if requirements are not applicable at the reporting stage (e.g. WELS and Energy Star ratings will not be known during concept design).

Project Name:	Approved by:
Reporting stage:	Date approved:
Completed by:	
Date completed:	

Initiative	Large projects	Achieved (Y/N)	Project response
ESD Scope/Consultant	Mandatory Independent ESD consultant required		
Climate Change Adaptation Plan in line with AS5334	Mandatory		Enclose completed Climate Change Adaptation Plan
Net zero plan demonstrating how the building will transition to zero emissions	Mandatory		
Life Cycle Assessment (LCA) –GHG embodied emissions reduction	Mandatory Embodied emissions reduction: 2022: >10% 2024: >20% 2026: >30%		Enclose completed LCA. If in concept design, confirm priority materials for reduction (e.g. concrete/steel)
Passive design	Mandatory Passive design to achieve 10% improvement in energy performance compared to reference NCC Section J building		
Energy modelling to optimise the design and improve performance (in line with JV3 Performance Solution compared to a DtS reference building)	Mandatory Section J Reference building, intermediate building (proposed fabric + DtS Services) and proposed building modelling required		Enclose completed energy modelling summary. If in concept design, enclose energy targets set for the project.
Daylight and thermal comfort modelling in line with Green Star/WELL	Mandatory		

B. Project Summary

Large Projects

Initiative	Large projects	Achieved (Y/N)	Project response
Energy efficiency improvement (above latest applicable version of the NCC or energy ratings in specifications)	Mandatory Demonstrated with JV3 modelling 2022: 20% 2024: 30% 2025: Review NCC Update		
Onsite renewable energy assessed to determine opportunity	Mandatory		Enclose renewable energy assessment.
Renewable electricity via onsite renewables compared to project energy demand	Mandatory Install solar PV to the maximum available roof area to offset energy consumption of facilities		
All-electric building services	Mandatory Heating, hot water and cooktops (excl. teaching related plant/equipment)		
Energy metering	Mandatory <ul style="list-style-type: none"> • Mains supply • HVAC, lighting, power • Renewable energy • Per floor HVAC, lighting, power • Major energy consuming equipment >10% total energy load • EV charging 		
Water metering	Mandatory <ul style="list-style-type: none"> • Mains supply per building • Recycled water supply (if applicable) • Irrigation • End of trip • Major water consuming equipment >10% total water load • Cooling towers, condensers & water heat rejection systems 		

B. Project Summary

Large Projects

Initiative	Large projects	Achieved (Y/N)	Project response
CO ₂ monitoring and automatic fresh air provisions for ventilation systems	Mandatory		
Pandemic responsive HVAC design incl. 100% fresh air flush	Mandatory		
50% fresh air provision improvement over AS1668.2	Mandatory		
Increased air filtration to reduce air pollution (incl. bushfire smoke)	Mandatory		
Air permeability testing in line with ATTMA/JV4 Target rate: 3m ³ /m ² /hr @50 Pa. Maximum 5m ³ /m ² /hr @50 Pa.	Mandatory		
Low/Zero GWP Refrigerants in line with specifications	Mandatory Low/zero GWP + Consider offsetting		
End of trip facilities (internal end of trip facilities, bicycle racks, showers, lockers + external bicycle racks)	Mandatory Refer Technical Guidance 3.11.2		
Electric vehicle (EV) charging stations (if car parks in project scope)	Mandatory		
Water conservation	Mandatory		Summarise water conservation measures:
30% potable water use reduction (Green Star Potable Water Calculator to be used)	Mandatory		Enclose completed Green Star Potable Water Calculator

B. Project Summary

Large Projects

Initiative	Large projects	Achieved (Y/N)	Project response
50 % potable water use reduction (Green Star Potable Water Calculator to be used)	Mandatory When recycled water available/viable		
Stormwater flows and pollutants limited to set thresholds	Mandatory 40% Reduction in average stormwater discharge (ML/yr) Pollution Reduction Targets: • Total Suspended Solids: 85% • Gross Pollutants: 90% • Total Nitrogen: 45% • Total Phosphorus: 65%		
Construction and Demolition Waste Diversion	Mandatory		
Construction and Demolition Waste Management Plan	Mandatory Minimum 4 landfill diversion streams Landfill diversion: 2022: 80% 2024: 90% 2026: 95%		Enclose Construction & Demolition Waste Management Plan (prior to construction starting)
Operational Waste Assessed and minimum 3 waste streams incorporated (landfill, recycling, organics)	Mandatory Minimum 3 landfill diversion streams + 2 specialty waste streams (e.g. batteries, soft plastics, 10c deposit)		
Operational Waste Management Plan with specialist waste streams	Mandatory		Enclose Operational Waste Management Plan
Air quality testing to confirm VOC and formaldehyde levels	Mandatory		
ESD Specifications	Mandatory		

B. Project Summary

Large Projects

Initiative	Large projects	Achieved (Y/N)	Project response
Built environment as a learning tool	Mandatory New builds must incorporate options for the building to be used as a learning tool such as highlighting passive design features, energy/solar PV monitor displays, exposed building services, and celebrating Connection to Country design input.		

B. Project Summary

Precinct Projects

The following summary must be completed at each major reporting milestone (e.g. Concept Design, Schematic Design, Detailed Design). Mark TBC if requirements are not applicable at the reporting stage (e.g. WELS and Energy Star ratings will not be known during concept design).

Project Name:	Approved by:
Reporting stage:	Date approved:
Completed by:	
Date completed:	

Initiative	Precinct projects	Achieved (Y/N)	Project response
ESD Scope/Consultant	Mandatory Independent ESD consultant required		
Climate Change Adaptation Plan in line with AS5334	Mandatory		
Net zero plan demonstrating how the building will transition to zero emissions	Mandatory		
Life Cycle Assessment (LCA) – Embodied emissions reduction	Mandatory Scope to be developed as part of project brief. Must include concrete, asphalt and steel		
Passive design (refer Section 4.5)	Mandatory Master plans and campus designs to maximise northern orientation		
Renewable electricity via onsite renewables compared to project energy demand	Mandatory Install solar PV to the maximum available roof area to offset energy consumption of precinct facilities		
All-electric designs	Mandatory excl. teaching related plant and equipment		

B. Project Summary

Precinct Projects

Initiative	Precinct projects	Achieved (Y/N)	Project response
Energy metering	Mandatory Campus energy and renewable energy and water metering to be implemented and metering strategy developed		
Water metering	Mandatory Campus water metering to be implemented (potable and non-potable) and metering strategy developed		
Increased air filtration to reduce air pollution (incl. bushfire smoke)	Mandatory		
Low/Zero GWP Refrigerants in line with specifications	Mandatory Low/zero GWP + Consider offsetting		
End of trip facilities (Bicycle racks, showers, lockers) Metrics based on regular building occupants	Mandatory Internal end of trip facilities and external bike racks to be provided based on campus location and bicycle access. Bicycle racks for 2.5% campus visitors		
Electric vehicle (EV) charging stations	Mandatory		
Water conservation	Mandatory		Summarise water conservation initiatives:
Stormwater flows and pollutants limited to set thresholds	Mandatory Refer Green Star Communities requirements		
Construction and Demolition Waste Diversion	Mandatory		
Construction and Demolition Waste Management Plan	Mandatory		Enclose Construction & Demolition Waste Management Plan (prior to construction starting)

B. Project Summary

Precinct Projects





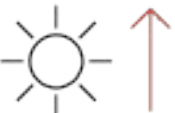

Initiative	Precinct projects	Achieved (Y/N)	Project response
Operational Waste Assessed and minimum 3 waste streams incorporated (landfill, recycling, organics)	Mandatory		
Operational Waste Management Plan with specialist waste streams	Mandatory		
ESD Specifications	Mandatory		
Built environment as a learning tool	Mandatory Campus works should incorporate outdoor environment learning opportunities such rain gardens with information/signage, rainwater harvesting initiatives, Connection to Country and EV charging information.		

Appendix C

C. Climate Change Assessment





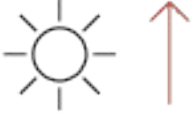
Project Assessment

Project Name:	Approved by:
Reporting stage:	Date approved:
Completed by:	
Date completed:	

Topic	Summary	Potential Impacts	Project response
Annual mean temperature increases 	Annual mean temperatures are projected to increase across all regions, impacting both minimum and maximum temperatures.		
More frequent periods of hot days and extreme heat 	The number of days above 35 degrees is projected to increase across all regions, with days above 40 degrees increasing in most regions.		
Changes in annual rainfall 	Both increases and decreases in annual rainfall have been projected depending on the region.		
Increased rainfall intensity 	Increased rainfall intensity has been projected across all regions, with increased temperatures increasing the capacity of the air to hold water.		
Increased periods of drought 	Increased temperatures and changes in rainfall are expected to increase the frequency and period of droughts.		
Increase in severe and extreme fire weather days 	Increased temperatures and changes in rainfall, wind and humidity are expected to increase average, severe and extreme fire weather days across all regions.		

C. Climate Change Assessment

Project Assessment

Topic	Summary	Potential Impacts	Project response
Sea level rise 	Sea level rise is projected across all coastal locations		
Synoptic systems 	General reduction in frequency but increase in intensity of tropical cyclones		
Wind 	Increase/decrease in wind speed depending on the location		
Humidity 	Increase/decrease in humidity depending on the location		
Solar radiation 	Increased solar radiation		



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