

Information Paper

Project:	Infin8 Care – Lumina Parklands	Project No.	1030346
Subject:	ESD Strategy for Development Application	Doc No.	RPT-001
Author:	David Collins	Date:	19/08/2021
Attention:	Justin Smith, Infin8 Care	Revision:	-

This Information Paper aims to set out the ESD strategy for the above-mentioned project. Infin8 Care are aiming to achieve a cost effective ESD solution which delivers reductions in energy and water consumption, minimise materials impacts and provides an improved indoor environmental quality for the residents.

The projects aims to achieve the equivalent environmental outcomes to a 5 star Green Star Design & As-Built v1.3 rating, achieving a minimum 60 points.

Green Star Overview

The Green Building Council of Australia (GBCA) Green Star – Design & As-Built rating tool is a system developed to rate the design and construction of any building. Green Star – Design & As-Built assesses the sustainability attributes of a building through nine categories:

- Management
- Indoor Environmental Quality
- Energy
- Transport
- Water
- Materials
- Land Use and Ecology
- Emissions
- Innovation

Each category contains a number of different credits, and each credit is worth 1 or more points.

The Green Star – Design & As-Built rating tool includes a total of 110 points that are available to be claimed, including 10 points in the Innovation category. A minimum of 60 points is required to achieve a 5 Star Green Star rating.

Green Star Strategy

The consultant team has prepared a Green Star scorecard for this project, which outlines the intended pathway to be equivalent to a 5 star Green Star rating. The scorecard is provided for reference as an attachment to this Information Paper, however the project team reserve the right to adjust the scorecard as design progresses, maintaining the minimum 60 points. This scorecard may be helpful to provide additional detail or context relating to the initially targeted Green Star credits, with a number of items still to be confirmed.

Verification Process

Cundall have been engaged by Infin8 Care through the life of the development's construction. Cundall will utilise the review points to provide ongoing advice to achieve the requirements.

- Design Documentation
 - Work with the design team to embed the Green Star requirements into the design
 - Provide a specification to detail the constructure requirements on the contractor and sub-contractor to achieve the ESD outcomes
 - Conduct benchmark analysis to confirm energy, water, daylight and thermal comfort points achieved. Note that no detailed modelling will be conducted, benchmarking from other similar projects

- Working with Infin8 Care to enhance policies related to the operation of the building
- Construction
 - The Contractor will be contracted to manage the process and deliver all outcomes
 - The Contractor may engage Cundall to provide further support in this phase if required
- Post Construction
 - Review Contractor submitting information to verify each credit achievement
 - Provide a statement nominating the Green Star credits that can be achieved

Summary

The project is committed to achieving the equivalent of a 5 star Green Star rating through design and construction stages. The project will provide contractual requirements on the building to deliver the outcomes and Cundall will provide final high level review to determine achievement of the targets.

Project:	Infin8 Lumina - Parklands	Project No.	1030346	CORE POINTS AVAILABLE	BASE STRATEGY	ADDITIONAL MARGIN
Targeted Rating:	5 star	Date:	12/08/2021	99	60.0	5
Prepared by:	David Collins	Revision:	-	Cumulative Score	60.0	65
				Potential Rating	5 star	5 star

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	CORE POINTS AVAILABLE	BASE STRATEGY	ADDITIONAL MARGIN	COMMENTS	Costs	APPLICABLE AREAS	RESPONSIBILITY
Management				14						
Green Star AP	To recognise the appointment and active involvement of a Green Star Accredited Professional in order to ensure that the rating tool is applied effectively and as intended.	1.0	Accredited Professional	1	1		Cundalls scope of works covers the requirements of this credit		Whole project	Primary: Cundall Secondary: Infin8
Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Performance Targets	-	Yes		Cundall can prepare the whole Design Intent Report. The DIR will include energy and water consumption targets. This is noted as additional fees in our proposal (\$2000).	\$2,000	Whole project	Primary: Cundall Secondary: Infin8
		2.1	Services and Maintainability Review	1	1		A services and maintainability review will be conducted during design development to aid the ongoing performance of the asset. The on going use and maintenance of the different systems is to be reviewed with input from Infin8 and ideally inputs from asset management at their existing facility.		Whole project	Primary: Contractor Secondary: ICA, Services Design
		2.2	Building Commissioning	1	1		Specification are to include detailed requirements for the commissioning of the various systems. A commissioning plan is to be developed and implemented by the various trades. A commissioning report is to be developed to demonstrate that the commissioning plan has been implemented.		Whole project	Primary: Contractor Secondary: Services Design
		2.3	Building Systems Tuning	1	1		A building tuning plan and agreed scope of works is to be developed.		Whole project	Primary: Servcies Design Secondary: Contractor
		2.4	Independent Commissioning Agent	1		1	If required, an Independent Commissioning Agent is to be engaged for the project	\$40,000	Whole project	Primary: ICA Secondary: Contractor
Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	3.0	Implementation of a Climate Adaptation Plan	2	2		Cundall can developed a Climate Change Adaptation Plan which summarises the risks posed to the project due to climate change over a number of time frames. This is noted as additional fees in our proposal (\$5000).	\$5,000	Whole project	Primary: Cundall Secondary: All others as needed
Building Information	To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.	4.1	Building Information	1	1		Building Users Guide, OMMs and Building Log Book to be developed following PC		Whole project	Primary: Contractpr Secondary: All others as needed
Commitment to Performance	To recognise practices that encourage building owners, building occupants and facilities management teams to set targets and monitor environmental performance in a collaborative way.	5.1	Environmental Building Performance	1	1		Infin8 to commit to measuring the sustainability performance of the asset throughout its life.		Whole project	Primary: Infin8 Secondary: Cundall
		5.2	End of Life Waste Performance	1	1		Infin8 to commit to measuring end of life waste and committing to additional life space on finishes and furniture..		Whole project	Primary: Infin8 Secondary: Cundall
Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering	-	Yes		Services consultants to design in appropriate metering to cover minimum requirements as noted in the submission guidelines. Electrical consultant to develop a metering and moniotring plan which summarises the provision of meters, the requirements of the monitoring system and the metering targets. This could be done by Cundall, additional services in our proposal (\$5,000)		Whole project	Primary: Electrical, Mechanical, Hydraulic Secondary: Cundall
		6.1	Monitoring Systems	1	1		A suitable energy and water monitoring system is to be developed which can capture data at minimum 15-minute intervals, display data in various formats, send alerts when use changes from baselines, send alerts for leaks and reports to facilities management.		Whole project	Primary: Electrical, Mechanical, Hydraulic Secondary: Cundall
Construction Environmental Management	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	Yes		Contractor to develop an EMP		Whole project	Primary: Contractor Secondary: Sub-contractors
		7.1	Formalised Environmental Management System	1	1		Contractor to ensure ISO14001 is maintained		Whole project	Primary: Contractor Secondary: Sub-contractors
		7.2	High Quality Staff Support	1	1		Contractor to implement high quality staff support including physical and mental wellbeing and on-going sustainability information.		Whole project	Primary: Contractor Secondary: Sub-contractors
Operational Waste	Prescriptive Pathway	8B	Prescriptive Pathway - Facilities	1	1		Suitably siized waste and recycling facilities are to be implemented into the design with appropriate access for waste contractors.		Whole project	Primary: Architect Secondary: Contractor
Total				14	13	1		\$47,000		

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Indoor Environment Quality				17						
Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.1	Ventilation System Attributes	1		1	Mechanical design to include for: - Separation of supply air intakes and exhausts, to ASHRAE (greater than AS) - Access to both sides of coils and fans for ongoing cleaning of AHUs/FCUs - All duct work to be sealed prior to insulation with final clean		Primary and Secondary	Primary: Mechanical Secondary: Contractor
		9.2	Provision of Outdoor Air	2			Not targetted due to likely ventilation type			
		9.3	Exhaust or Elimination of Pollutants	1	1		Pollutant exhausts required for cooking, printing, vehicles or ay other type of pollutant.		Primary and Secondary	Primary: Mechanical Secondary: Contractor, Infin8
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	1	1		Internal noise levels to be maintained at a suitable level. Noise levels consider external building noise sources as well as building services noise, with the building un occupied.		Primary and Secondary	Primary: Acoustic Consultant Secondary: Architect
		10.2	Reverberation	1			Not targetted due to hard surface usage.			
		10.3	Acoustic Separation	1	1		Acoustic separation to be provided between any spaces where acoustic privacy is to be expected including office/admin spaces and residential spaces.		Primary and Secondary	Primary: Acoustic Consultant Secondary: Architect
Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfort	-	Yes		Minimum requirement for lighting to be design with flicker-free solutions (LED) and meets the required CRI		Primary and Secondary	Primary: Electrical Secondary: Architect
		11.1	General Illuminance and Glare Reduction	1	1		Lighting design is to be design to meet suitable lighting levels for the spaces and to achieve a suitable uniformity levels. All lighting to include for glare control.		Primary and Secondary	Primary: Electrical Secondary: Architect
		11.2	Surface Illuminance	1			Not targetted due to modelling requirements and design to prove achievement.			
		11.3	Localised Lighting Control	1	1		All occupants must have the ability to control the lighting in their spaces, suitable task lighting to both residential and office spaces is suggested.		Primary and Secondary	Primary: Electrical Secondary: Architect
Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	-	Yes		Curtains and/or blinds to be provided to all glazing to occupied spaces.		Primary	Primary: Architect Secondary: Contractor
		12.1	Daylight	2	1		Cundall will conduct sample daylight analysis to confirm daylight achieved and specify a minmum VLT, balance of daylight and heat loads are to be considered.		Primary	Primary: Cundall Secondary: Architect
		12.2	Views	1	1		60% of spaces are to be within 8m of glazing		Primary	Primary: Architect Secondary: Cundall
Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1	Paints, Adhesives, Sealants and Carpets	1	1		Anyone nominating direct products is to ensure that they are low-VOC inline with the requirements. Specification clauses to cover all other products for selection by the sub-contractors.		Primary, Secondary and Tertiary	Primary: Architect Secondary: All others as required
		13.2	Engineered Wood Products	1	1		Anyone nominating direct products is to ensure that they are low-formaldehyde inline with the requirements. Specification clauses to cover all other products for selection by the sub-contractors.		Primary, Secondary and Tertiary	Primary: Architect Secondary: All others as required
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	1		High level of thermal comfort are to be achieved through suitable fabric and glazing selections. To be achieve through Section J modelling.		Primary and Secondary	Primary: Cundall Secondary: Architect
		14.2	Advanced Thermal Comfort	1			Not targetted without modelling to verify.			
Total				17	10	1		\$0		

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Energy				22						
Greenhouse Gas Emissions	E. Modelled Performance Pathway	15E.0	Conditional Requirement	-	Yes		See below		Whole project	See below
		15E.1	GHG Emissions Reduction – Prescriptive Pathway	20	6.5	2	Emissions Reduction (6 points) Analysis will be based on benchmarking from similar projects. - VRV air conditioning - LED lighting with lowest possible LPD - Lighting controls, occupancy, daylight and timeclocks - Electric heat pump hot water system - 99kW solar system to be included. All electric building (2 points, currently TBC) Whole building to be all electric with no gas supply, including cooking and laundry fittings. Note: Points are conservative as no modelling will be provided.		Whole project	Primary: Cundall Secondary: All others as needed
Peak Electricity Demand Reduction	Performance Pathway	16B	Performance Pathway - On-site Energy Generation	2	2		Achieved through the same initiatives as above		Whole project	Primary: Cundall Secondary: All others as needed
Total				22	8.5	2		\$0		

6.0

Transport				10						
Sustainable Transport	Prescriptive Pathway	17B.1	Access by Public Transport	3	2		To be reviewed and confirmed with exact location.		Whole project	Primary: Cundall Secondary: -
		17B.2	Reduced Car Parking Provision	1			Reduced car parking - more than was required.		Whole project	Primary: Architect Secondary: Contractor
		17B.3	Low Emission Vehicle Infrastructure	1	1		5% of car parking to be marked as for electric vehicle charging. 71 total car parks @ 5% = 4 Evs required. Provided = 4 EVs + 10 Trickle charge, compliant.		Whole project	Primary: Architect Secondary: Contractor
		17B.4	Active Transport Facilities	1		1	Active transport facilities to be provided including bike rack, showers and lockers for staff. Bike racks for others to be investigated. Staff population = 30 aged care staff + 1/15 for office at 750m² = 80 total staff) Requires: - 6 bike racks - 4 showers - 8 lockers		Whole project	Primary: Architect Secondary: Contractor
		17B.5	Walkable Neighbourhoods	1	1		Cundall to conduct analysys on the walkability of the location, calculations provided by a GBCA calculator, will need more information on future developments to complete.		Whole project	Primary: Cundall Secondary:
Total				7	4	1	\$0			

Water				12						
Potable Water	Performance Pathway	18A.1	Potable Water - Performance Pathway	12	6		Points to be achieved through: - Low flow fittings, as far as practicable - Low water needs landscaping with under mulch drip irrigation - Rainwater collection system, 50kL - Air cooled air conditioning - Fire water capture and pump testing reuse. Cundall to review potable water calculation with FFE schedule.		Whole project	Primary: Cundall Secondary: Architect, Hydraulic and Landscaping
Total				12	6	0		\$0		

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Materials				14						
Life Cycle Impacts	Prescriptive Pathway - Life Cycle Impacts	19B.1	Concrete	3	3		Portland cement content is reduced by 40%, measured by mass across all concrete used in the project compared to the reference case. Mix water for all concrete used in the project contains at least 50% captured or reclaimed water (measured across all concrete mixes in the project). 40% of coarse aggregate in the concrete is crushedslag aggregate or another alternative material (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic metre of concrete.		Whole project	Primary: Contractor Secondary: Structural
		19B.2	Steel	1	1		Demonstrate a 5% reduction in the mass of reinforcing steel used in the building when compared to standard practice.		Whole project	Primary: Contractor Secondary: Structural
		19B.3	Building Reuse	4			Not targetted, no reuse.			
		19B.4	Structural Timber	4			Not targetted, no timber			
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Structural and Reinforcing Steel	1	1		95% of all steel is sourced from a Responsible Steel Maker 60% of all reinforcing bar and mesh is produced using energy reducing processes in it manufacturing.		Whole project	Primary: Contractor Secondary: Structural
		20.2	Timber Products	1	1		Anyone nominating direct products is to ensure that they are FSC or recycled inline with the requirements. Specification clauses to cover all other products for selection by the sub-contractors.		Whole project	Primary: Architect Secondary: All others as required
		20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1		Anyone nominating direct products is to ensure that they are FROM Best Practice PVC sources inline with the requirements. Specification clauses to cover all other products for selection by the sub-contractors.		Whole project	Primary: Architect, Electrical, Civil, Hydraulic, Mechanical Secondary: Contractor
Sustainable Products	To encourage sustainability and transparency in product specification.	21.0	Product Transparency and Sustainability	3	1		Points achieved based on having Environmental Product Declarations or Recycled Content, consider: - Concrete and re-bar/mesh can have a minor recycled content - Joinery, carpets, plasterboards, roofing can all contribute by having EPDs. Would be aiming to achieve with cost neutrality, just careful selections.		Whole project	Primary: Contractor, Structural and Architect Secondary: Cundall
Construction and Demolition Waste	Percentage Benchmark	22.0	Reporting Accuracy	-	Yes		Construction waste to be diverted from landfill, contractor to provide details on the process.		Whole project	Primary: Contractor Secondary: Waste Contractor
		22B	Percentage Benchmark	1	1		Construction waste to be diverted from landfill, contractor to provide details on the process.		Whole project	Primary: Contractor Secondary: Waste Contractor
Total				14	9	0		\$25,000		

Land Use & Ecology				5						
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable Species	-			Not targetted as 23.1 not targetted.			
		23.1	Ecological Value	3			Not targetted as no significant improvement on ecological value.	\$10,000		
Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement	-	Yes		Conditional Requirement		Whole project	Primary: Infin8
		24.1	Reuse of Land	1	1		Currently car park, considered reuse.		Whole project	Primary: Infin8
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.0	Heat Island Effect Reduction	1					Whole project	Primary: Cundall Secondary: Architect
Total				6	1	0		\$10,000		

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Emissions				5						
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Stormwater Peak Discharge	1			No targetted, civil to confirm if on site detention is being considered. Anything at a precinct level to reduce flows?			
		26.2	Stormwater Pollution Targets	1			As above.			
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Bodies	-	Yes		External lighting to be minimised and to be low level to achieve requirements.		Whole project	Primary: Electrical Secondary: Contractor
		27.1	Light Pollution to Night Sky	1	1		External lighting to be minimised and to be low level to achieve requirements.		Whole project	Primary: Electrical Secondary: Contractor
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28.0	Legionella Impacts from Cooling Systems	1	1		All HVAC to be water cooled		Whole project	Primary: Mechanical Secondary: Contractor
Refrigerant Impacts	To encourage operational practices that minimise the environmental impacts of refrigeration equipment.	29.0	Refrigerants Impacts	1			No achievable with type of systems that are likely.			
Total				5	2	0		\$0		

Innovation				10						
Innovative Technology or Process	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	30A	Innovative Technology or Process	10	1		30A.1 - Provision of on-site renewables		Whole project	Primary: Cundall Secondary: Contractor
Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia or in the world.	30B	Market Transformation						Whole project	Primary: ICA Secondary: Services
Improving on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	30C	Improving on Green Star Benchmarks		1		Ultra Low VOCs paints to be used on walls and ceiling.		Primary, Secondary and Tertiary	Primary: Architect Secondary: All others as required
Innovation Challenge	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	30D	Innovation Challenge							
Global Sustainability	Project teams may adopt an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star rating tools.	30E	Global Sustainability		4		Targeting Points: - [Architect] - Design for Robustness TBC Points: - [Infin8] Green Cleaning - [Infin8] Sustainable Procurement Poilcy - [Infin8] Hardscape Management Plan The above policy and plans can be developed, additional scope (\$10,000)	\$10,000	Whole project	Primary: Architect & Infin8
Total				10	6	0		\$10,000		