

HYBRID ENVIRONMENTAL DESIGN AUDIT TOOL (HEDAT)

SITE LOCATION: Residential Aged Care Facility, Bli Bli

1 – SURFACES - HORIZONTAL (pathways & pavements) & VERTICAL (walls, fences, gates, trellis, & screens)

Indicators	Measure	Site Sector Rating						Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional						
		BB 1	BB 2	BB 3	BB 4	BB 5	BB 6	
1.1 Surfaces provide high solar reflectance	1.1 a) Pavements comprise lighter pigments to increase albedo (<i>the proportion of the incident light or radiation that is reflected by the pavements/horizontal surface/s</i>).	6	2	3	6	6	6	Pedestrian pavements are typically clean concrete providing light-coloured surfaces. Vehicular pavements are asphalt (vehicular traffic movement) containing dark pigments, dominant in BB2 & BB3 with significant expanses of asphalt pavement.
	1.1 b) Walls, fences, gates, trellis & screens comprise lighter pigments to increase albedo (<i>the proportion of the incident light or radiation that is reflected by the walls/vertical surface/s</i>).	3	3	4	3	4	4	Walls are typically exposed medium-dark brickwork with glazed windows. BB1: Moderately dark brickwork to most external walls; BB2: Lighter brickwork with aged boulder retaining walls; BB3 Significant areas of tinted windows & medium bricks.
1.2 Surfaces utilise materials to increase permeability and reduce heat	1.2 a) Pavements utilise at least one of the listed methods/materials to improve permeability: <ul style="list-style-type: none">o foam-based concreteo gravel with/without resin/binder (instead of cement)o permeable asphalto concrete/grass paverso vegetation in gapso permeable sub-grade	1	1	1	1	1	1	No pavements utilise any of the listed methods/materials to improve permeability.
1.3 Pavements are shaded to reduce heat emission	1.3 a) Pavements have vegetation planted in gaps as part of the design.	1	2	1	1	1	1	Most pavements have no vegetation planted in gaps as part of the design. BB2 Perimeter planting areas to carparking area
	1.3 b) Bioswales, rain gardens, planted areas and/or lawns are present alongside pavements to improve permeability.	5	2	3	5	6	6	No Bioswales or rain gardens present. Planted areas are present alongside pavements to improve permeability in all sectors; lawns alongside pavements in all sectors except BB2.
	1.3 c) Pavements are shaded.	3	1	3	3	4	5	Pedestrian pavements in BB1 more often exposed; BB2 & BB3 are highly exposed; BB4 some covered, others are exposed; BB5 are exposed but partly shaded by adjacent vegetation (mornings); BB6 all are covered.
	1.3 d) Walls, fences, gates, trellis & screens are shaded.	4	5	4	4	4	4	Walls are typically shaded by roof overhang/eaves where roof profile is hipped and verandas are provided in part: BB1, BB3, BB4 Shaded partially by eaves; BB2 Shaded mostly by adjacent planting.
	SURFACES SCORE (7-49)	23	16	19	23	26	27	

	1 Very poor (0-7) 2 Poor (8-14) 3 Fair (15-21) 4 Good (22-28) 5 Very good (29-37) 6 Excellent (38-42) 7 Exceptional (39-49)								
	SURFACES RATING (1-7)	4	3	3	4	4	4		

2 – VEGETATION

Indicators	Measure	Site Sector Rating						Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional						
		BB 1	BB 2	BB 3	BB 4	BB 5	BB 6	
2.1 Vegetation is provided in a range of forms.	2.1 a) Existing GI comprises a combination of the following: <ul style="list-style-type: none">o bioswales &/or rain gardenso gardenso treeso lawn areaso raised garden beds & / or planter boxes and/or containers (e.g. pots)	6	2	5	4	4	4	Existing GI in all sectors comprises a moderate combination of planted areas, trees, grassed areas, raised garden beds & planter boxes (BB1 only) and in limited areas, portable containers (e.g. pots) mostly in BB5. No bioswales or rain gardens.
	2.1 b) Existing GI provides for biodiversity through: <ul style="list-style-type: none">o Species diversityo Species suited to aspect (exposure to wind and sunlight) and soil typeo Connectivity to vegetation corridors that are internal and/or external to the site	3	3	4	4	5	3	GI provides for some biodiversity and climate change resilience through species diversity (BB2, BB3, BB4); species are generally suited to aspect (exposure to wind and sunlight) and soil type; and drought tolerance. Strong connectivity to vegetation corridors that are internal and/or external to the site for BB5.
	2.1 c) Trees are formatively pruned to allow air circulation beneath the canopy.	2	6	3	2	2	4	
2.1 Vegetation is provided in a manner cost-effective to maintain.	2.2 a) Existing GI requires minimal maintenance (frequency and duration) such as mowing, pruning, aerial inspection, irrigation, edging, weed control): <ul style="list-style-type: none">o Deciduous trees (that shed a lot of leaves during autumn) are not too close to pathways to cause a slip hazardo Trees heights do not impair access, allow to walk under the canopy/s with ease, avoid interference with powerlineso Gardens are adequately mulched and planted with no bare patcheso Grassed areas are irrigated, mowed, edged & weed-free	3	2	4	4	4	4	Existing GI requires moderate levels of maintenance (frequency and duration): mowing, pruning, aerial inspection, irrigation, edging, weed control), mostly due to lack of mulching & weed invasion (BB2), extent of lawns, and vegetation being hedged. Lack of mulching, irrigation, plant replacement means these areas are under-performing.
	2.2 b) Tree species are climate change resilient: <ul style="list-style-type: none">o Drought toleranceo Strength of trees and branches during high winds and storms to limit risk of falling treeso Deep roots that will not up-root pathways and cause trip hazards	4	6	3	7	3	7	

2.2 Green roofs and/or green walls are provided.	2.3 a) Green roof and/or green wall is present.	1	1	1	1	1	1	No green roofs and/or green walls are present.		
	2.3 b) The green roof and/or green wall is healthy and well maintained.	1	1	1	1	1	1	Not applicable.		
2.4 Opportunities for new green roofs and/or green walls exist	2.4 a) Opportunities exists for green roofs (note any roofs with a low slope).	1	1	1	1	1	1	Very few structures seem suited for a green roof.		
	2.4 b) Opportunities exist for green walls.	1	1	1	1	1	1	Very few structures seem suited for a green wall.		
	VEGETATION SCORE (9-63)	22	23	23	25	22	26			
	1 Very poor (1-9) 2 Poor (10-18) 3 Fair (19-27) 4 Good (28-36) 5 Very good (37-45) 6 Excellent (44-54) 7 Exceptional (55-63)									
	VEGETATION RATING (1-7)	3	3	3	3	3	3			

3 – EVAPORATIVE COOLING METHODS

Indicators	Measure	Site Sector Rating								Observation Notes	
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional									
		BB 1	BB 2	BB 3	BB 4	BB 5	BB 6				
3.1 Evaporative cooling system methods are present	3.1 a) Utilises evaporative cooling system methods: <ul style="list-style-type: none">o Misting fanso Fountains / ponds / water features with running watero Irrigation systems	1	1	1	1	1	4			The aged care facility utilises limited evaporative cooling system methods such as misting fans, water features (running water to reduce ground temperature), or irrigation systems. A water feature is provided in BB6 with overhead fans.	
	EVAPORATIVE COOLING SCORE: (1-7)	1	1	1	1	1	4				
	1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional										
	EVAPORATIVE COOLING RATING: (1-7)	1	1	1	1	1	4				

4 – SHADING STRUCTURES

Indicators	Measure	Site Sector Rating							Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional							
		BB 1	BB 2	BB 3	BB 4	BB 5	BB 6		
4.1 Shading structures are provided	4.1 a) The species of trees provide year-round shade.	4	1	5	3	6	4		
	4.1 b) Trees provide horizontal and vertical surfaces with shade much of the day.	3	1	4	3	6	3		
4.2 Opportunities exist for increasing shade to exposed surfaces	4.2 a) Exposed surfaces can be shaded through new works: <ul style="list-style-type: none">installing additional/new shade structuresplanting treesinstalling new pavements in closer proximity to existing shading structures and/or trees	4	4	4	3	3	4		Most sectors offer the opportunity to significantly increase the quantity and quality of shading to existing horizontal and vertical surfaces.
4.3 Existing shaded areas are utilised	4.3 a) Shaded areas used for resident activities and/or other purposes to mitigate urban heat on users, including for: <ul style="list-style-type: none">Pathways for walking/strollingSeated areasObservation of nature (e.g. birds, bees, fish)Individual activities (e.g. reading)Small Group activities (e.g. meetings, conversation with others, crafts & hobbies)Formal/structured activitiesInformal/unstructured useStaff areasAdjacent windows for views from internal areas	6	2	2	4	5	2		Shaded areas are prevalent in some sectors (BB1, BB4, BB5, BB6); BB2, BB3 offer few that are suitable for resident activities. Transparent roof in BB6 offers cover but not complete shade.
	SHADING STRUCTURES SCORE: (4-28)	17	8	15	13	20	13		
	1 Very poor (4) 2 Poor (5-8) 3 Fair (9-12) 4 Good (13-16) 5 Very good (17-20) 6 Excellent (21-24) 7 Exceptional (25-28)								
	SHADING STRUCTURES RATING: (1-7)	5	2	4	4	5	4		

5 – UNIVERSAL DESIGN & CPTED (Crime Prevention Through Environmental Design)

Indicators	Measure	Site Sector Rating						Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good						
		5 Very good 6 Excellent 7 Exceptional						
		BB 1	BB 2	BB 3	BB 4	BB 5	BB 6	
5.1 Equitable & Flexible Approach & Use Relevant to a wide group of users, individuals, their preferences, and their abilities; regardless of size, used with ease. <div><div>○ Pathways, walls, fences, gates, trellis & screens</div><div>○ Gardens, lawns, planters, & pots</div><div>○ Shading structures</div></div>	Pathways							Pathways
	UD Principle 1 Equitable use	5	4	2	5	5	7	<div><div></div><div>design is somewhat useful and relevant to a wide group of users. Pathways provide for pedestrian movement within most sectors usually 1) a circuitous manner and 2) without having to cross vehicular pavements; BB3 is the exception.</div></div>
	UD Principle 2 Flexibility in use	4	2	3	4	4	7	
	UD Principle 6 Low physical effort	6	3	4	3	4	6	
	UD Principle 7 Size & space for approach & use	6	3	4	4	6	7	
	Urban vegetation							
	UD Principle 1 Equitable use	4	3	5	4	5	5	<div><div></div><div>design accommodates a wide range of individual preferences and abilities; most pavements are relatively flat but narrow in most cases (1.2m wide); covered sections have handrails. BB1 Pathways are narrow at times; BB2 Limited designated pedestrian pathways around carparking area; BB3 Limited extent.</div></div>
	UD Principle 2 Flexibility in use	4	3	4	4	5	5	
	UD Principle 6 Low physical effort	4	5	3	5	6	7	
	UD Principle 7 Size & space for approach & use	6	4	4	4	4	7	<div><div></div><div>design can be used easily, efficiently, and comfortably with a minimum of fatigue. Several sections (BB2, BB4 & BB5) are without places for rest.</div></div>
	Shading							
	UD Principle 1 Equitable use	7	3	2	5	4	4	<div><div></div><div>size and space for approach, reach, manipulation, and use should be appropriate regardless of the body size, posture, or mobility of the user. BB2 has limited designated pedestrian pathways around carparking area; BB6 provides for mobile beds.</div></div>
	UD Principle 2 Flexibility in use	7	3	2	4	4	4	
	UD Principle 6 Low physical effort	6	2	3	5	4	6	
	UD Principle 7 Size & space for approach & use	6	4	4	5	5	6	
		5.4	3.3	3.3	4.3	4.7	5.9	Urban vegetation
							<div><div></div><div>design is somewhat useful and relevant to a wide group of users; provides for viewing of and/or interactions with nature (flora and fauna).</div></div>	
							<div><div></div><div>design accommodates a wide range of individual preferences and abilities.</div></div>	
							<div><div></div><div>design can be used easily, efficiently, and comfortably with a minimum of fatigue.</div></div>	
							<div><div></div><div>size and space for approach, reach, manipulation, and use should be appropriate regardless of the body size, posture, or mobility of the user.</div></div>	
							Shading	

5.2 Simple, Intuitive & Perceptive Design & communication is easy to be understood regardless of the range of abilities. <ul style="list-style-type: none">○ Pathway system, walls/fences/gates for access management○ Signs, pavement markers and landmarks support wayfinding○ Seats & shaded areas	Pathways UD Principle 3 Simple & intuitive use	3	3	3	3	3	5			<p>In most sectors, the pathway design is not easy to understand regardless of the knowledge, experience, language skills, or concentration level of the user. Site familiarity is essential to navigate around the facility. No evident hierarchy or directional cues. Buildings and surrounds are generally, visually monotonous.</p> <p>The pathway design communicates information somewhat effectively to the user regardless of the ambient condition or the sensory abilities of the user.</p> <p>Pathway provision means that users can generally find their way with confidence by seeing which the important or appropriate routes are to take, can identify desirable or likely places for the services they seek, or most likely to be frequented by others assuming some knowledge of the site and its facilities.</p> <p>In most sectors, the urban vegetation contributes somewhat to site design that is easy to understand regardless of the knowledge, experience, language skills, or concentration level of the user.</p> <p>The urban vegetation design communicates information effectively to the user regardless of the ambient condition or the sensory abilities of the user.</p> <p>Urban vegetation provision means that users can find their way with confidence by seeing which the important or appropriate routes are to take, can identify desirable or likely places for the services they seek, or most likely to be frequented by others.</p>
	UD Principle 4 Perceptible information	4	4	3	4	4	5			
	CPTED Principle 2 Legibility	4	5	3	4	5	5			
	Urban vegetation UD Principle 3 Simple & intuitive use	3	3	3	2	2	5			
	UD Principle 4 Perceptible information	3	4	3	3	4	4			
	CPTED Principle 2 Legibility	5	3	3	5	4	7			
	Shading UD Principle 3 Simple & intuitive use	7	5	2	4	4	6			
	UD Principle 4 Perceptible information	6	5	3	4	5	6			
	CPTED Principle 2 Legibility	7	4	3	5	4	6			
	4.7	4	2.9	3.8	3.9	5.4				
5.3 Tolerance for Error Design minimizes hazards & reduces the risk to personal safety. <ul style="list-style-type: none">○ Pathways, walls, fences, gates, trellis & screens○ Gardens, lawns, planters, & pots○ Water features○ Shading structures	Pathways UD Principle 5 Tolerance for error	4	2	4	3	3	6			<p>The pathway design at times minimises the hazards and adverse consequences of unintended actions of the user. Several sections (BB2, BB4 & BB5) are without handrails/supports.</p> <p>Pathway provision means that places are generally designed and managed to reduce or limit risks to users’ personal safety. BB1: It is somewhat unclear who/where/when assistance would arrive in the case of a confrontation/incident.</p>
	CPTED Principle 6 Vulnerability	3	4	3	3	3	5			
	Urban vegetation UD Principle 5 Tolerance for error	4	4	4	4	4	4			
	CPTED Principle 6 Vulnerability	5	3	3	5	5	6			
	Shading									

	UD Principle 5 Tolerance for error CPTED Principle 6 Vulnerability	6 6 4.7	3 4 3.3	4 4 3.7	5 5 4.2	4 4 3.8	6 6 5.5			The urban vegetation design at times minimises the hazards and adverse consequences of unintended actions of the user. Urban vegetation provision means that places are designed and managed to reduce or limit risks to users' personal safety.
5.4 Design supports casual surveillance <ul style="list-style-type: none"> Design facilitates unimpeded sightlines to key places Avoids blind spots Acknowledges differences in night and day usage, attitudes, accessibility, and capacities for surveillance. 	CPTED Principle 1 Surveillance Pathways Urban vegetation Shading	6 4 7 5.7	7 4 3 4.7	3 4 3 3.3	4 5 5 4.7	5 5 4 4.7	7 7 6 6.7			The pathway design generally facilitates unimpeded sightlines to key places, avoids blind spots, and acknowledges differences in day usage, attitudes, accessibility, and capacities for surveillance: most areas unsuited for night usage for residents except BB3 & BB4. The urban vegetation design facilitates unimpeded sightlines to key places, avoids blind spots, and acknowledges differences in day usage, attitudes, accessibility, and capacities for surveillance.
5.5 Territoriality & Ownership of Outcomes <ul style="list-style-type: none"> Users can determine and understand theirs and others' territory through clear delineations of public domain and private territory. Users can care about their shared settings, can see what is going on, and can respond in ways that will enhance their safety and the safety of others. 	Pathways CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes Urban vegetation CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes Shading CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes	3 3 6 6 7 6 5.2	4 4 4 5 4 3 4	5 4 3 3 4 4 3.8	5 4 5 5 5 4 4.7	6 4 4 5 5 5 4.8	6 4 7 6 6 4 5.5			Pathway provision means that users can determine and understand theirs and others' territory through clear delineations of public domain and private territory. All external areas are communal spaces. Pathway provision means that users can care about their shared settings, can see what is going on, and can respond in ways that will enhance their safety and the safety of others. Urban vegetation provision means that users can determine and understand theirs and others' territory through clear delineations of public domain and private territory. Urban vegetation provision means that users can care about their shared settings, can see what is going on, and can respond in ways that will enhance their safety and the safety of others.
5.6 Management <ul style="list-style-type: none"> Places are designed to minimise damage 	CPTED Principle 5 Management	5 3 5	4 2 3	4 2 4	6 2 6	6 3 6	6 6 6			Pathway provision means that places are designed to minimise damage and the need for undue maintenance: regular and reactive maintenance is implemented.

and the need for undue maintenance Regular and reactive maintenance is implemented		4.3	3	3.3	4.7	5	6			Urban vegetation provision means that places are designed to minimise damage and the need for undue maintenance; regular and reactive maintenance is implemented.
	UNIVERSAL DESIGN & CPTED SECTOR SCORE: (6-42)	30	22	20	26	27	35			
	1 Very poor (6) 2 Poor (7-12) 3 Fair (13-18) 4 Good (19-24) 5 Very good (25-30) 6 Excellent (31-36) 7 Exceptional (37-42)									
	UNIVERSAL DESIGN & CPTED RATING: (1-7)	5	4	4	5	5	6			

HYBRID ENVIRONMENTAL DESIGN AUDIT - SUMMARY

	BB 1	BB 2	BB 3	BB 4	BB 5	BB6			
SURFACES SCORE: (7-49)	23	16	19	23	26	27			
VEGETATION SCORE: (9-63)	22	23	23	25	22	26			
EVAPORATIVE COOLING SCORE: (1-7)	1	1	1	1	1	4			
SHADING STRUCTURES SCORE: (4-28)	17	8	15	13	20	13			
UNIVERSAL DESIGN & CPTED SCORE: (6-42)	30	22	20	26	27	35			
ENVIRONMENTAL DESIGN SITE AUDIT SCORE: (27-189)	93	70	78	88	96	105			
1 Very poor (27) 2 Poor (28-54) 3 Fair (55-81) 4 Good (82-108) 5 Very good (109-135) 6 Excellent (136-162) 7 Exceptional (163-189)									
ENVIRONMENTAL DESIGN SITE AUDIT RATING: (1-7)	4	3	3	4	4	4			

SITE LOCATION: Residential Aged Care Facility, Caloundra

1 – SURFACES - HORIZONTAL (pathways & pavements) & VERTICAL (walls, fences, gates, trellis, & screens)

Indicators	Measure	Site Sector Rating								Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional								
		C1	C2	C3	C4	C5	C6	C7	C8	
1.1 Surfaces provide high solar reflectance	1.1 a) Pavements comprise lighter pigments to increase albedo (<i>the proportion of the incident light or radiation that is reflected by the pavements/horizontal surface/s</i>).	6	7	2	6	5	5	3	2	<i>Pedestrian pavements are typically clean concrete providing light-coloured surfaces. Vehicular pavements are asphalt (vehicular traffic movement) containing dark pigments, dominant in C3, C5, C6, C7. No pavements present in C2; Synthetic turf pavements in C8.</i>
	1.1 b) Walls, fences, gates, trellis & screens comprise lighter pigments to increase albedo (<i>the proportion of the incident light or radiation that is reflected by the walls/vertical surface/s</i>).	3	2	3	3	3	3	3	3	<i>Walls are typically exposed medium-dark brickwork with glazed windows. C2 features roller-screens (black shade cloth) to the edges of covered external walkways.</i>
1.2 Surfaces utilise materials to increase permeability and reduce heat	1.2 a) Pavements utilise at least one of the listed methods/materials to improve permeability: <ul style="list-style-type: none">o foam-based concreteo gravel with/without resin/binder (instead of cement)o permeable asphalto concrete/grass paverso vegetation in gapso permeable sub-grade	1	1	1	1	1	1	1	1	No pavements utilise any of the listed methods/materials to improve permeability.
1.3 Pavements are shaded to reduce heat emission	1.3 a) Pavements have vegetation planted in gaps as part of the design.	1	1	1	1	1	1	1	1	No pavements have vegetation planted in gaps as part of the design.
	1.3 b) Bioswales, rain gardens, planted areas and/or lawns are present alongside pavements to improve permeability.	4	4	3	4	4	4	4	1	No Bioswales or rain gardens present. Planted areas are present alongside pavements to improve permeability in all sectors; lawns alongside pavements in C1, C2, C3 (limited), C4, C5, C6, C7 – none in C8.
	1.3 c) Pavements are shaded.	4	7	1	1	4	4	4	4	All pavements in C2 are shaded; pedestrian pavements partially shaded in C1, C5, C6, C7, C8; no shade to pedestrian or vehicular pavements in C3, C4.
	1.3 d) Walls, fences, gates, trellis & screens are shaded.	2	1	3	3	3	5	5	4	Walls are typically shaded by roof overhang/eaves where roof profile is hipped and verandas are provided in part (C6, C7, C8), Walls are typically exposed where roof profile provides gable ends (C1, C2), compounded where there is no adjacent vegetation to provide shade.

	SURFACES SCORE (7-49)	21	23	14	19	21	23	21	16	
	1 Very poor (0-7) 2 Poor (8-14) 3 Fair (15-21) 4 Good (22-28) 5 Very good (29-37) 6 Excellent (38-42) 7 Exceptional (39-49)									
	SURFACES RATING (1-7)	3	4	2	3	3	4	3	3	

2 – VEGETATION

Indicators	Measure	Site Sector Rating								Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional								
		C1	C2	C3	C4	C5	C6	C7	C8	
2.2 Vegetation is provided in a range of forms.	2.2 a) Existing GI comprises a combination of the following: <ul style="list-style-type: none">o bioswales &/or rain gardenso gardenso treeso lawn areaso raised garden beds & / or planter boxes and/or containers (e.g. pots)	4	3	2	4	4	5	5	3	Existing GI in all sectors comprises a limited combination of planted areas, trees, grassed areas, and in limited areas, portable containers (e.g. pots) mostly in C2 and C7. No bioswales, rain gardens, raised garden beds, or planter boxes.
	2.1 b) Existing GI provides for biodiversity through: <ul style="list-style-type: none">o Species diversityo Species suited to aspect (exposure to wind and sunlight) and soil typeo Connectivity to vegetation corridors that are internal and/or external to the site	4	2	2	2	2	4	5	1	GI provides for some biodiversity and climate change resilience through species diversity (C7); species suited to aspect (exposure to wind and sunlight) and soil type; and drought tolerance. Strong connectivity to vegetation corridors that are internal and/or external to the site for C1 and C7.
	2.1 c) Trees are formatively pruned to allow air circulation beneath the canopy.	4	3	7	4	4	3	4	7	
2.3 Vegetation is provided in a manner cost-effective to maintain.	2.2 a) Existing GI requires minimal maintenance (frequency and duration) such as mowing, pruning, aerial inspection, irrigation, edging, weed control): <ul style="list-style-type: none">o Deciduous trees (that shed a lot of leaves during autumn) are not too close to pathways to cause a slip hazardo Trees heights do not impair access, allow to walk under the canopy/s with ease, avoid interference with powerlineso Gardens are adequately mulched and planted with no bare patcheso Grassed areas are irrigated, mowed, edged & weed-free	4	3	3	4	3	3	4	3	Existing GI requires moderate levels of maintenance (frequency and duration): mowing, pruning, aerial inspection, irrigation, edging, weed control), mostly due to lack of mulching, extent of lawns, and vegetation being hedged. Lack of mulching, irrigation, plant replacement means these areas are under-performing.
	2.2 b) Tree species are climate change resilient:	2	3	3	4	4	3	2	3	

	<ul style="list-style-type: none">o Drought toleranceo Strength of trees and branches during high winds and storms to limit risk of falling treeso Deep roots that will not up-root pathways and cause trip hazards									
2.4 Green roofs and/or green walls are provided.	2.3 a) Green roof and/or green wall is present.	1	1	1	1	1	1	1	1	No green roofs and/or green walls are present.
	2.3 b) The green roof and/or green wall is healthy and well maintained.	1	1	1	1	1	1	1	1	Not applicable.
2.4 Opportunities for new green roofs and/or green walls exist	2.4 a) Opportunities exists for green roofs (note any roofs with a low slope).	1	4	1	1	1	1	1	1	Very few structures seem suited for a green roof.
	2.4 b) Opportunities exist for green walls.	4	4	4	2	2	2	2	4	
	VEGETATION SCORE (9-63)	25	24	24	23	22	23	25	24	
	1 Very poor (1-9) 2 Poor (10-18) 3 Fair (19-27) 4 Good (28-36) 5 Very good (37-45) 6 Excellent (44-54) 7 Exceptional (55-63)									
	VEGETATION RATING (1-7)	3	3	3	3	3	3	3	3	

3 – EVAPORATIVE COOLING METHODS

Indicators	Measure	Site Sector Rating								Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional								
		C1	C2	C3	C4	C5	C6	C7	C8	
3.2 Evaporative cooling system methods are present	3.1 a) Utilises evaporative cooling system methods: <ul style="list-style-type: none">o Misting fanso Fountains / ponds / water features with running watero Irrigation systems	1	1	1	1	1	1	1	3	<p>The aged care facility does not utilise evaporative cooling system methods such as misting fans, water features (running water to reduce ground temperature), or irrigation systems.</p> <p>Two small free-standing fountains with containers are evident in C8 only; one was not operating at time of inspection.</p>
	EVAPORATIVE COOLING SCORE: (1-7)	1	1	1	1	1	1	1	3	

	1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional									
	EVAPORATIVE COOLING RATING: (1-7)	1	1	1	1	1	1	1	3	

4 – SHADING STRUCTURES

Indicators	Measure	Site Sector Rating								Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional								
		C1	C2	C3	C4	C5	C6	C7	C8	
4.4 Shading structures are provided	4.1 a) The species of trees provide year-round shade.	7	6	6	4	5	5	7	7	
	4.1 b) Trees provide horizontal and vertical surfaces with shade much of the day.	7	2	2	3	5	6	7	4	
4.5 Opportunities exist for increasing shade to exposed surfaces	4.2 a) Exposed surfaces can be shaded through new works: <ul style="list-style-type: none">installing additional/new shade structuresplanting treesinstalling new pavements in closer proximity to existing shading structures and/or trees	5	7	7	6	6	6	4	6	All sectors offer the opportunity to significantly increase the quantity and quality of shading to existing horizontal and vertical surfaces.
4.6 Existing shaded areas are utilised	4.3 a) Shaded areas used for resident activities and/or other purposes to mitigate urban heat on users, including for: <ul style="list-style-type: none">Pathways for walking/strollingSeated areasObservation of nature (e.g. birds, bees, fish)Individual activities (e.g. reading)Small Group activities (e.g. meetings, conversation with others, crafts & hobbies)Formal/structured activitiesInformal/unstructured useStaff areasAdjacent windows for views from internal areas	3	3	2	3	2	3	5	5	Shaded areas are limited; few are suitable for resident activities.
	SHADING STRUCTURES SCORE: (4-28)	22	18	17	16	18	20	23	22	
	1 Very poor (4) 2 Poor (5-8) 3 Fair (9-12) 4 Good (13-16)									

	5 Very good (17-20) 6 Excellent (21-24) 7 Exceptional (25-28)									
	SHADING STRUCTURES RATING: (1-7)	6	5	5	4	5	5	6	6	

5 – UNIVERSAL DESIGN & CPTED (Crime Prevention Through Environmental Design)

Indicators	Measure	Site Sector Rating								Observation Notes
		1 Very poor 2 Poor 3 Fair 4 Good 5 Very good 6 Excellent 7 Exceptional								
		C1	C2	C3	C4	C5	C6	C7	C8	
5.1 Equitable & Flexible Approach & Use Relevant to a wide group of users, individuals, their preferences, and their abilities; regardless of size, used with ease. <ul style="list-style-type: none">Pathways, walls, fences, gates, trellis & screensGardens, lawns, planters, & potsShading structures	Pathways									The pathway design is somewhat useful and relevant to a wide group of users. Pathways provide for pedestrian movement within most sectors but rarely in either 1) a circuitous manner or 2) without having to re-enter buildings and/or cross vehicular pavements.
	UD Principle 1 Equitable use	4	6	2	4	4	2	4	6	
	UD Principle 2 Flexibility in use	3	7	2	3	3	2	3	5	
	UD Principle 6 Low physical effort	2	7	3	3	4	3	3	6	
	UD Principle 7 Size & space for approach & use	2	4	3	3	3	3	3	4	The pathway design accommodates a wide range of individual preferences and abilities; most pavements are relatively flat but narrow in most cases (1.2m wide); covered sections have handrails.
	Urban vegetation									
	UD Principle 1 Equitable use	4	3	2	5	4	6	5	3	
	UD Principle 2 Flexibility in use	3	4	2	3	3	4	5	4	
	UD Principle 6 Low physical effort	3	2	2	3	3	4	5	4	The pathway design can be used easily, efficiently, and comfortably with a minimum of fatigue
	UD Principle 7 Size & space for approach & use	3	6	4	4	4	4	3	4	
	Shading									
	UD Principle 1 Equitable use	2	2	4	3	1	3	2	6	
	UD Principle 2 Flexibility in use	2	1	5	3	1	3	2	6	The pathway size and space for approach, reach, manipulation, and use should be appropriate regardless of the body size, posture, or mobility of the user.
	UD Principle 6 Low physical effort	2	2	4	1	1	4	3	6	
	UD Principle 7 Size & space for approach & use	1	1	3	2	1	3	4	6	
		2.6	3.8	3	3.1	2.7	3.4	3.5	5	
										The urban vegetation design is somewhat useful and relevant to a wide group of users. Urban vegetation provides for viewing of and/or interactions with nature (flora and fauna).
										The urban vegetation design accommodates a wide range of individual preferences and abilities.
										The urban vegetation design can be used easily, efficiently, and comfortably with a minimum of

										fatigue The urban vegetation size and space for approach, reach, manipulation, and use should be appropriate regardless of the body size, posture, or mobility of the user.
5.2 Simple, Intuitive & Perceptive Design & communication is easy to be understood regardless of the range of abilities. <ul style="list-style-type: none"> ○ Pathway system, walls/fences/gates for access management ○ Signs, pavement markers and landmarks support wayfinding ○ Seats & shaded areas 	Pathways UD Principle 3 Simple & intuitive use UD Principle 4 Perceptible information CPTED Principle 2 Legibility	1	3	1	1	1	1	1	4	In most sectors, the pathway design is not easy to understand regardless of the knowledge, experience, language skills, or concentration level of the user. Site familiarity is essential to navigate around the facility. The pathway design communicates information somewhat effectively to the user regardless of the ambient condition or the sensory abilities of the user. Pathway provision means that users can find their way with confidence by seeing which the important or appropriate routes are to take, can identify desirable or likely places for the services they seek, or most likely to be frequented by others In most sectors, the urban vegetation contributes to site design that is easy to understand regardless of the knowledge, experience, language skills, or concentration level of the user. The urban vegetation design communicates information effectively to the user regardless of the ambient condition or the sensory abilities of the user. Urban vegetation provision means that users can find their way with confidence by seeing which the important or appropriate routes are to take, can identify desirable or likely places for the services they seek, or most likely to be frequented by others.
	UD Principle 3 Simple & intuitive use	2	4	2	2	2	1	2	4	
	UD Principle 4 Perceptible information	2	7	4	4	4	3	3	7	
	CPTED Principle 2 Legibility	4	3	3	3	3	3	4	3	
	Urban vegetation	4	3	3	3	3	3	4	3	
	UD Principle 3 Simple & intuitive use	4	3	3	3	3	3	4	3	
	UD Principle 4 Perceptible information	2	2	3	4	2	4	4	7	
	CPTED Principle 2 Legibility	2	2	5	3	1	3	3	6	
	Shading	2	2	4	3	1	3	3	6	
	UD Principle 3 Simple & intuitive use	2	2	4	3	1	3	3	6	
	UD Principle 4 Perceptible information	1	4	7	4	3	4	5	7	
	CPTED Principle 2 Legibility	2.2	3.3	3.6	3	2.2	2.8	3.2	5.2	
5.3 Tolerance for Error Design minimizes hazards & reduces the risk to personal safety.	Pathways UD Principle 5 Tolerance for error CPTED Principle 6 Vulnerability	3	5	1	3	2	2	3	4	The pathway design at times minimises the hazards and adverse consequences of unintended actions of the user. Pathway provision means that places are designed
	UD Principle 5 Tolerance for error	1	7	1	5	5	3	3	7	
	CPTED Principle 6 Vulnerability									

<ul style="list-style-type: none"> ○ Pathways, walls, fences, gates, trellis & screens ○ Gardens, lawns, planters, & pots ○ Water features ○ Shading structures 	Urban vegetation UD Principle 5 Tolerance for error CPTED Principle 6 Vulnerability Shading UD Principle 5 Tolerance for error CPTED Principle 6 Vulnerability	2	6	4	5	5	4	2	2	and managed to reduce or limit risks to users' personal safety.
		2	6	5	5	4	4	4	7	The urban vegetation design at times minimises the hazards and adverse consequences of unintended actions of the user
		2	2	4	3	1	3	3	6	
		2	4	4	4	3	2	5	7	Urban vegetation provision means that places are designed and managed to reduce or limit risks to users' personal safety.
		2	5	3.2	4.2	3.3	3	3.3	5.5	
5.4 Design supports casual surveillance <ul style="list-style-type: none"> ○ Design facilitates unimpeded sightlines to key places ○ Avoids blind spots ○ Acknowledges differences in night and day usage, attitudes, accessibility, and capacities for surveillance. 	CPTED Principle 1 Surveillance Pathways Urban vegetation Shading	2	7	6	4	4	3	3	7	The pathway design facilitates unimpeded sightlines to key places, avoids blind spots, and acknowledges differences in day usage, attitudes, accessibility, and capacities for surveillance; most areas unsuited for night usage for residents except C2 and C8.
		4	6	6	5	6	6	6	7	
		1	4	7	4	3	4	5	6	
		2.3	5.7	6.3	4.3	4.3	4.3	4.7	6.7	The urban vegetation design facilitates unimpeded sightlines to key places, avoids blind spots, and acknowledges differences in day usage, attitudes, accessibility, and capacities for surveillance; most areas unsuited for night usage for residents except C2 and C8.
5.5 Territoriality & Ownership of Outcomes <ul style="list-style-type: none"> ○ Users can determine and understand theirs and others' territory through clear delineations of public domain and private territory. ○ Users can care about their shared settings, can see what is going on, and can respond in ways that will enhance their safety and the safety of others. 	Pathways CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes Urban vegetation CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes Shading CPTED Principle 3 Territoriality CPTED Principle 4 Ownership of the Outcomes	3	7	6	4	4	3	3	7	Pathway provision means that users can determine and understand theirs and others' territory through clear delineations of public domain and private territory.
		4	7	6	5	5	4	6	7	
		2	2	4	4	3	3	4	4	
		4	4	6	4	3	4	5	6	Pathway provision means that users can care about their shared settings, can see what is going on, and can respond in ways that will enhance their safety and the safety of others
		3	4	7	4	3	5	5	7	
		3	4	7	4	3	4	5	7	
		3.2	4.7	6	4.2	3.5	3.8	4.7	6.3	
5.6 Management <ul style="list-style-type: none"> ○ Places are designed to minimise damage 	<ul style="list-style-type: none"> ○ CPTED Principle 5 Management 	5	7	6	6	6	3	5	6	Pathway provision means that places are designed to minimise damage and the need for undue maintenance; regular and reactive maintenance is
		3	3	6	3	3	4	3	3	

and the need for undue maintenance ○ Regular and reactive maintenance is implemented		3 3.7	4 4.7	7 6.3	4 4.3	3 4	4 3.7	5 4.3	7 5.3	implemented. Urban vegetation provision means that places are designed to minimise damage and the need for undue maintenance; regular and reactive maintenance is implemented.
	UNIVERSAL DESIGN & CPTED SECTOR SCORE: (6-42)	16	27	28	23	20	21	24	34	
	1 Very poor (6) 2 Poor (7-12) 3 Fair (13-18) 4 Good (19-24) 5 Very good (25-30) 6 Excellent (31-36) 7 Exceptional (37-42)									
	UNIVERSAL DESIGN & CPTED RATING: (1-7)	3	5	5	4	4	4	4	6	

HYBRID ENVIRONMENTAL DESIGN AUDIT - SUMMARY

	C1	C2	C3	C4	C5	C6	C7	C8	
SURFACES SCORE: (7-49)	21	23	14	19	21	23	21	16	
VEGETATION SCORE: (9-63)	25	24	24	23	22	23	25	24	
EVAPORATIVE COOLING SCORE: (1-7)	1	1	1	1	1	1	1	3	
SHADING STRUCTURES SCORE: (4-28)	22	18	17	16	18	20	23	22	
UNIVERSAL DESIGN & CPTED SCORE: (6-42)	16	27	28	23	20	21	24	34	
ENVIRONMENTAL DESIGN SITE AUDIT SCORE: (27-189)	85	93	84	82	82	88	94	99	
1 Very poor (27) 2 Poor (28-54) 3 Fair (55-81) 4 Good (82-108) 5 Very good (109-135) 6 Excellent (136-162) 7 Exceptional (163-189)									
ENVIRONMENTAL DESIGN SITE AUDIT RATING: (1-7)	4	4	4	4	4	4	4	4	