


BROKEN HILL MHU & EMERGENCY DEPARTMENT

REF Design Report
Landscape Architecture

TaylorBrammer

An aerial photograph of a desert landscape. In the center, a semi-transparent white rectangle contains two lines of italicized text. Below the rectangle, a town with a grid-like street pattern is visible, surrounded by arid, brownish terrain. To the left of the town, there is a large rectangular area filled with solar panels. The overall scene is a mix of natural desert features and human-made structures.

The project team acknowledges the Traditional Custodians of Broken Hill, the people belonging to the Wilyakali or Wiljali people and their connections to land, sea and community.

We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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Amendment register

DOCUMENT ISSUE	REVISION	DATE	STATUS	PREPARED	CHECKED
DRAFT	P1	06.10.2023	DRAFT	AL/MR	AL
DRAFT	P2	09.10.2023	DRAFT	AL/MR	AL
REF	P3	18.10.2023	A	AL/MR	AL
REF	P4	24.10.2023	B	AL/MR	AL

Broken Hill MHU & Emergency Dept.



Aerial image of Broken Hill and surrounding areas; Source Nearmap 2022

DESIGN STATEMENT

Design Scope

Taylor Brammer Landscape Architects Pty Ltd are engaged by STH Architects to prepare a Landscape Architectural services for the existing Broken Hill Hospital site in relation to the new Mental Health Unit (MHU) building and Emergency Department upgrades. This report is to be read as an appendix to the main report prepared by STH. Site analysis, planning principles and place making themes have been workshopped with the team and are included as part of the main report.

Strategic policies

The design of Broken Hill Mental Health Unit has been prepared to create appropriate, vibrant and comfortable outdoor environments. This has been informed by the following State policies and NSW Government Architects strategies.

- Greener Places - NSW Government Architect
- Design Guide for Health
- Crime Prevention Through Environmental Design (CPTED)
- HI Tree Replacement Policy

Greener Places

The Greener Places Design Guide (The Design Guide) provides guidance for this green infrastructure design framework. In particular the following policies are referenced:

— *Open Space for Recreation – Green infrastructure for people*
— *Tree Canopy – Green infrastructure for climate adaptation and resilience*
— *Bushland and Waterways – Green infrastructure for habitat and ecological health.*

The design for the Broken Hill Mental Health Unit engages green infrastructure as per the policies of GANSW across the site in expanding the existing tree and vegetation cover.

The Greener Places Policy design principles provide guidance in integrating green infrastructure into Broken Hill Mental Health Unit incorporating the following principles:

1. Integration - The integration of green infrastructure with urban development is considered through focusing on creating a contemporary healing and public domain outcome that directly responds to the natural typologies and landscape character of Broken Hill through considered selection of plant species and materiality.
2. Connectivity - The creation of an interconnected network of open

space within the existing Broken Hill Hospital site is achieved through maintaining pedestrian access to the existing Far West Mental Health Recovery Unit, Emergency Department and the main hospital adjacent.

3. Multifunctionality - The landscape design delivers multiple ecosystem services simultaneously through the integration of local cultural values that aid in creating a positive healing environment. The proposed landscape spaces maximise amenity for consumers with flexible active and passive opportunities for healing, contemplation and restoration.
4. Participation - The landscape design encourages stakeholders in the site's development and implementation. Plant species will continue to be developed up alongside future feedback from community. The allowance for planting by consumers and the local community further integrates the community in the development of Broken Hill Mental Health Unit, strengthening ownership of the space through the integration of culturally significant species.

Design Guide for Health

The Landscape Architectural proposal for the Broken Hill Mental Health Unit is focused on integrating the healing elements of nature with clinical care whilst respecting the Country.

- A quality, valuable, and appropriate outcome will be facilitated through the implementation of the following design principles;
- Integrate the project with local cultural values that aid in creating a positive healing environment
 - Maximise the amenity to the landscape spaces for the consumers
 - Provide flexible active and passive opportunities for consumers
 - Engage with local indigenous cultural themes to provide holistic landscape environment

The design proposal consolidates the existing dispersed low rise buildings to provide a community health precinct with quality open passive and cultural outdoor spaces that deliver quality of life to consumers, staff and the overall community. These landscape environments create a focus for community activity and engagement whilst offering ecological, socio-cultural, and economic benefits.

For example, the main courtyard fosters interaction and stewardship, community identity and a sense of connectedness to Country through incorporating a mix of flowering native plant species local to the Broken Hill region. Plant selections are sympathetic to the site's environmental conditions, ensuring that the plant species offer hardiness to ensure longevity whilst providing a sense of familiarity and safety to consumers.

This will be further achieved by a series of workshops and engagement

across the community about the meaning and integration of Country as a natural outcome for this important health infrastructure building.

Crime Prevention through Environmental Design (CPTED)

Safety for all users and the community is paramount in the design of all external environments.

The published principles of the CPTED (Crime Prevention Through Environmental Design)

Guidelines published by NSW Government - Justice are to be implemented throughout the

design of external spaces. CPTED is based on four design concepts. They are:

- Surveillance - casual visual surveillance and permanent electronic
- Access control - for users and staff
- Territorial reinforcement - for users and staff
- Space management/maintenance - for users and staff

HI Tree Replacement Policy

The tree replacement strategy for the site will seek to create a long term and sustainable vegetated outcome for the benefit of the People who use the site and the local Environment. This will be achieved by:

1. Retaining existing tree and shade tree wherever possible
2. Installing new trees in appropriate locations to maximise shade and privacy for consumers in future.
3. Using endemic planting from the local Broken Hill Region supplemented with low water maintenance.

A total of 69 trees will be removed on site, inclusive of Stage 1 and Stage 2 works. 84 proposed trees are to be planted, resulting in a 1:1.12 tree replacement ratio.

Emergency Department (ED)

There is limited opportunity for new landscape adjacent ED. The expansion of the department will require removal of T4, T5, T6 and T7. Supplementary shrub and ground cover planting endemic to the region is proposed adjacent ED, enhancing local floristic diversity and visual amenity to this area.

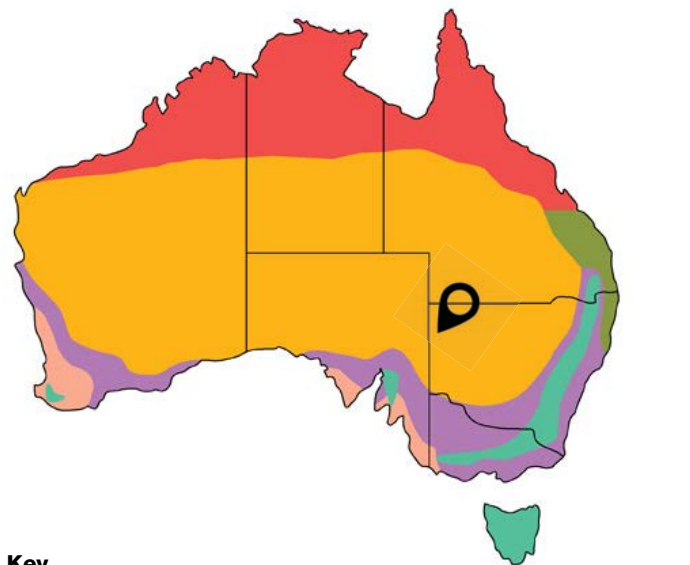
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CONTEXT

Site Context

Broken Hill is located in the far west of the State of NSW and near the borders of South Australia and Queensland. It is a hot inland desert climate with limited rainfall (see following page). Geographically the closest major city is Adelaide, South Australia.

The town is prominent in Australia's mining, industrial relations and economic history after the discovery of silver ore led to the opening of various mines, thus establishing Broken Hill's recognition as a prosperous mining town well into the 1990s. It has an approximate population of 17,000 people.



Key

- Subtropical
- Temperate
- Wet and Dry Tropical
- Dry Inland
- Mediterranean
- Cool

Project Location

Legend



Project Location

Broken Hill MHU & Emergency Dept.



Map of Australia, showing project location; Source Bureau of Meteorology

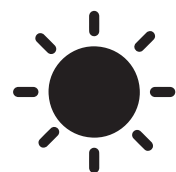
LOCAL ENVIRONMENT



Rainfall

Rainfall in Broken Hill is limited. The Bureau of Meteorology identifies the average total rainfall for the area to be 247.8mm with the average days of rain being 2.4 for the year.

Source Bureau of Meteorology



Temperature

Broken Hills hot season lasts from 22 November to 13 March, with an average daily high temperature above 31°C. The hottest month of the year in Broken Hill is January, with an average high of 34°C and low of 19°C.

The cool season is from 21 May to 25 August, with an average daily high temperature below 19°C. The coldest month of the year in Broken Hill is July, with an average low of 4°C and high of 16°C.

Source: weatherspark.com.au

Legend



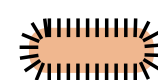
Project location



Town Centre
(Argent Street)



Major highways



Broken Earth Visitor
Centre and Rail Line



Aerial image of Broken Hill and surrounding areas; Source Nearmap 2022

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LOCAL CHARACTER



Aerial image of Broken Hill showing town character and Broken Earth Visitor Centre and Rail Line to rear; Source Visit NSW Government website



Broken Living Desert and Sculptures centre; Source Visit NSW Government website



Broken Hill Main Street, Argent Street; Source Golf Broken Hill Inc



General landscape character of limited trees and red earth; Source Escape.com.au



Broken Earth Visitor Centre and Rail Line: Source Australian Geographic



Western Ridge walk showing open desert character of landscape; Source Visit NSW Government website

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THE SITE

Legend

- Health precinct
- Project boundary
- ← Existing vehicle entries
- - - Primary vehicle access
- ← Existing Ambulance access
- ← Existing pedestrian access
- Existing sheltered and vegetated areas



Aerial image of Broken Hill and surrounding areas; Source Nearmap 2022

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| SITE CHARACTER



Existing site looking south towards existing hospital; Source STH Architects



Existing site looking south towards existing hospital entry; Source STH Architects



Existing site looking north towards heritage listed buildings; Source STH Architects



Existing emergency entry looking north; Source STH Architects



Existing car park area on west of site showing shade tree and low planting to be retained;
Source STH Architects



Western boundary condition showing informal parking areas and neighbouring dwellings in close proximity; Source STH Architects

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DESIGN PRINCIPLES



NATURAL PATTERNS

Integrate the natural patterns of the place

1. Create outcomes that are site specific
2. Consider the climatic changes of the place and provide shelter in summer and sun in winter
3. Provide shelter from prevailing winds
4. Utilise the natural topography of the site to focus and store water in ground



VEGETATION MASS

Retain existing trees and increase shade cover

1. Retain existing trees wherever possible
2. Add to the existing tree canopy through new planting strategies
3. Utilise the naturally occurring planting to embellish the place



CALM AND RESTORATIVE

Create calm and restorative places for people

1. Prioritise aspect of open space and comfort levels in the landscape
2. Provide functional access
3. Create a range of activities externally for consumers to engage with

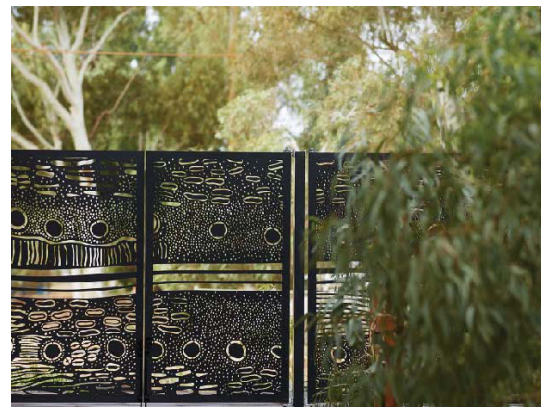
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DESIGN PRECEDENCE

Reference and character images

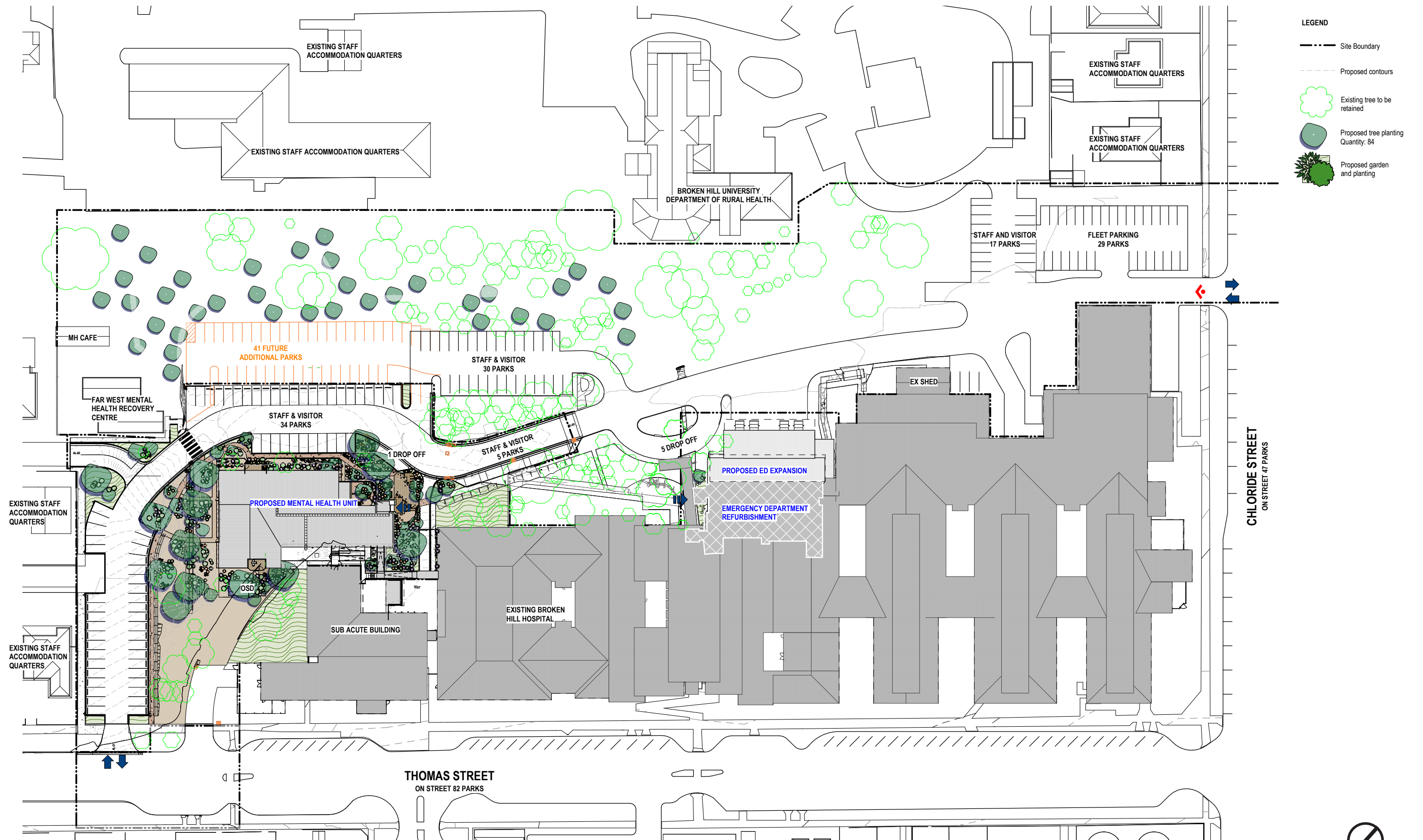


Reference planting images



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LANDSCAPE PROPOSAL - SITE PLAN



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LANDSCAPE PROPOSAL - MHU PLAN

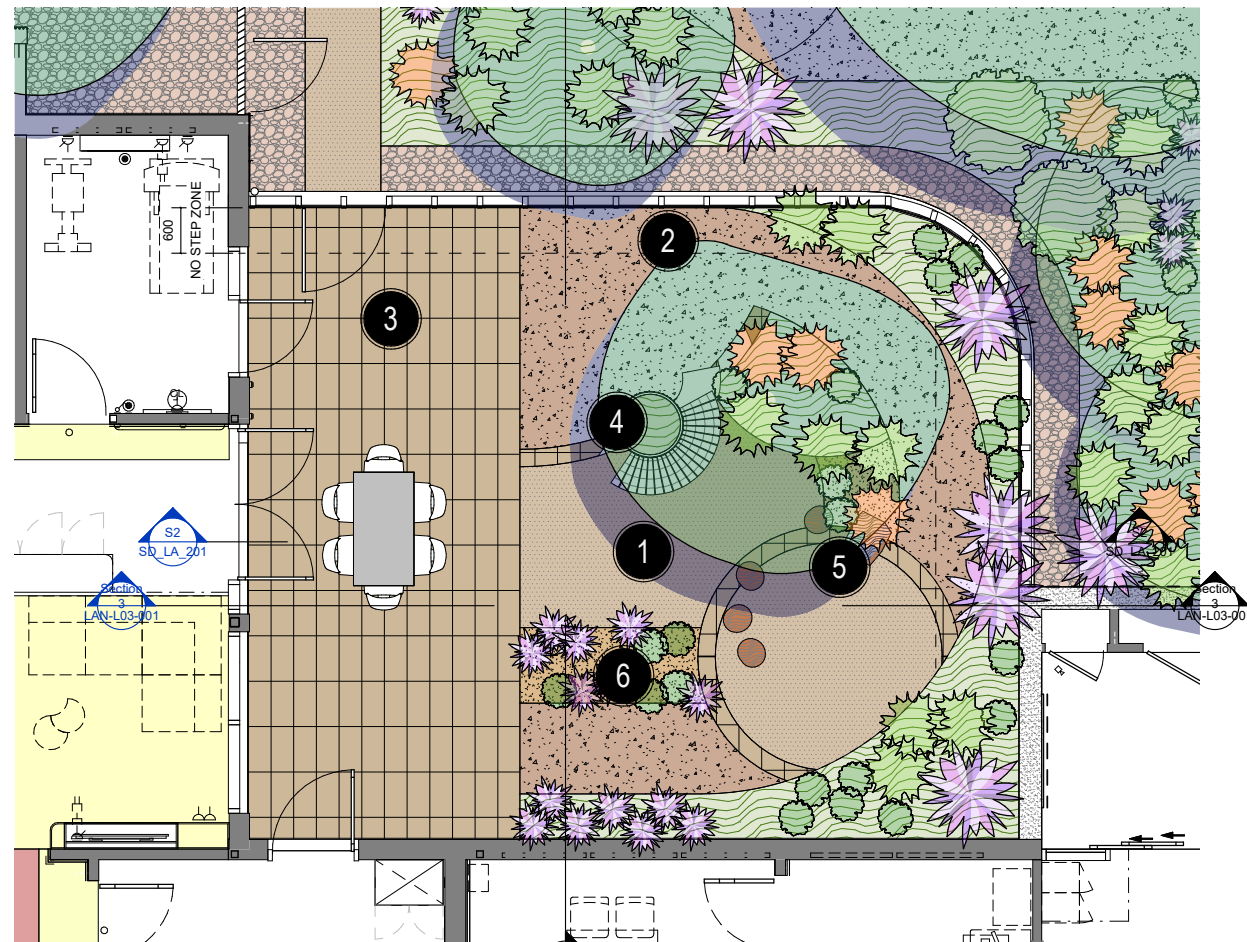


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LANDSCAPE PROPOSAL - MAIN COURTYARD

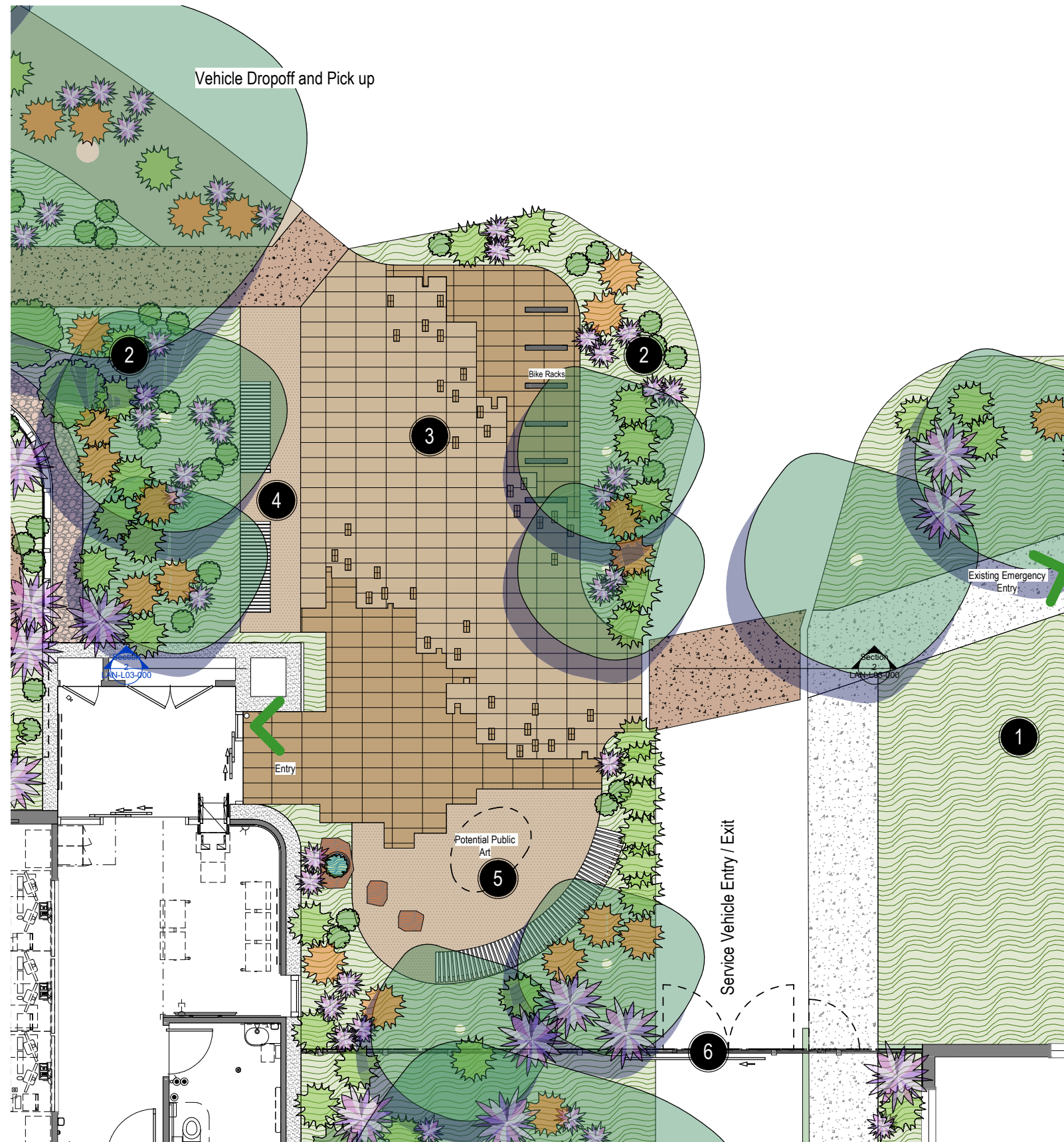
Design Notes

- 1 Open flexible breakout area
- 2 New native tree / shrub (Anti ligature)
- 3 Feature pavement to entry of colours matching the Broken Hill landscape
- 4 Raised planter with integrated seating
- 5 Yarning and seating areas
- 6 Dry creek bed with potential art (to future detail)



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LANDSCAPE PROPOSAL - ENTRY

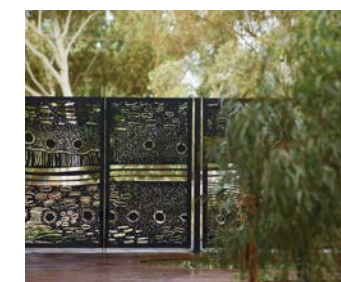


Design Notes

- 1 Existing garden and planting retained
- 2 New shade tree and planting to match existing
- 3 Feature pavement to entry of colours matching the Broken Hill landscape
- 4 Seating and waiting areas
- 5 Yarning and seating areas around public art element
- 6 Feature screen with lasercut patterns



Reference and character images



Broken Hill MHU & Emergency Dept.





PLANTING CHARACTER







Planting Strategy

The planting strategy for the site considers Mitigation Measure 30 from the OzArk Biodiversity Assessment and will seek to create a longterm and sustainable vegetated outcome for the benefit of the People who use the site and the local Environment. This will be achieved by:

1. Retaining existing tree and shade tree wherever possible
2. Using endemic planting with locally occurring native flora species to bare soil areas, enhancing local florisitc diversity and health including the propogation of Acacia aneura, Acacia victoriae and Atriplex vesicaria
3. Installing new trees in appropriate locations
4. Integrating Water Sensitive Urban Design principles into the design to retain and store rainwater in the ground

Planting Schedule						
TREE_ID	TREE_BOTANICAL_NAME	TREE_COMMON_NAME	TREE_POT_SIZE	TREE_HEIGHT	Count	Image
Ac-an	Acacia aneura	Mulga Wattle	100L	9000	19	
Ac-vi	Acacia victoriae	Gundablue	100L	4000	5	
At-ve	Atriplex vesicaria	Bladder Salt Bush	300mm	1000	46	
Er-lo	Eremophila longifolia	Emu bush	100L	15000	18	
Eu-ca	Eucalyptus camaldulensis	River Red Gum	100L	30000	22	
Eu-vi	Eucalyptus viminalis	Manna Gum	100L	25000	20	
Go-st	Gossypium sturtianum	Sturt's Desert Rose	300mm	1500	132	
Ja-li	Jasminum lineare	Desert Jasmine	300mm	1500	16	
Ma-br	Maireana brevifolia	Cotton Bush	300mm	1500	89	
Ol-pi	Olearia pimeleoides	Showy Daisy Bush	300mm	1000	145	
Rh-sp	Rhagodia spinescens	Spiny Salt Bush	300mm	500	54	

Planting Schedule						
TREE_ID	TREE_BOTANICAL_NAME	TREE_COMMON_NAME	TREE_POT_SIZE	TREE_HEIGHT	Count	Image
Sa-ac	Santalum acuminatum	Desert Quandong	300mm	5000	15	
Sc-di	Sclerolaena divaricata	Pale Poverty Bush	300mm	1000	176	
Se-ar	Senna artemisioides subsp. filifolia	Silver Cassia	300mm	2000	69	
So-st	Solanum sturtianum	Thargomindah Nightshade	300mm	2000	10	

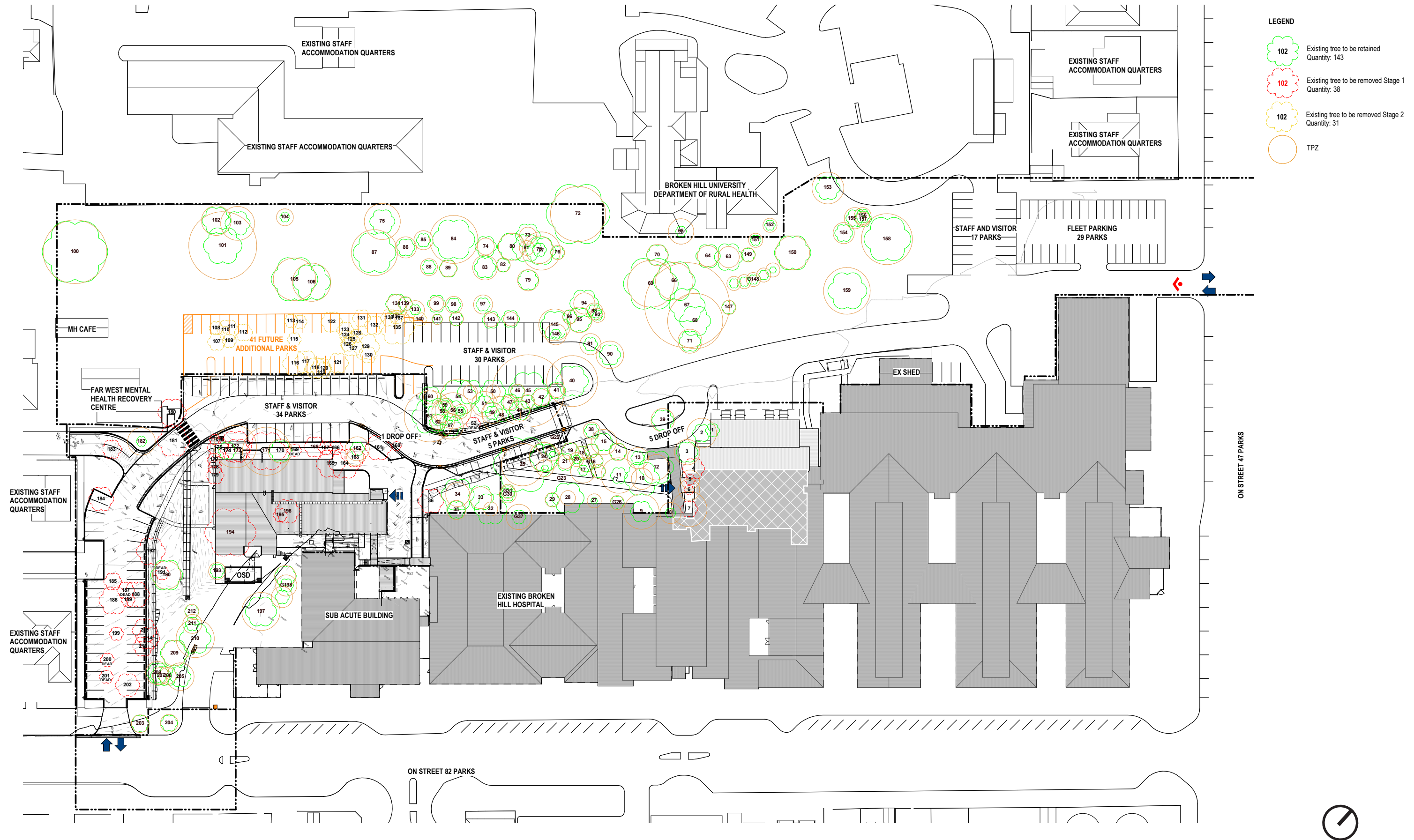
Planting Schedule - Groundcovers									
Groundcover_ID	Botanical Name	Common Name	Mature Height	Spread	Pot Size	Quantity	Area	Groundcover_Density	Image
Ca-gl	Casuarina glauca	Casurina Cousin it	500	1200	150mm	94	<varies>	3	
Ha-me	Hardenbergia meema	Native Sarsparilla	300	2000	150mm	70	<varies>	3	
He-cu	Heliotropium curassavicum	Smooth Helio trope	100	1000	150mm	56	<varies>	3	
Li-mo	Liriope Monroe's White	Lily Turf	400	450	150mm	15	<varies>	3	
Lo-la	Lomandra 'Tanika'	Mat Rush	1000	600	150mm	142	<varies>	3	
Ro-pr	Rosmarinus prostratus	Prostrate Rosemary	200	1000	150mm	67	<varies>	3	
Sw-fo	Swainsona formosa	Sturts Desert Pea	200	2000	150mm	114	<varies>	3	

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MATERIAL CHARACTER

Materials Schedule			
Type Mark	Description	Manufacturer	Image
		Bowral Bricks PH: (02) 4861 3031	
PB-OG	River Rock (Mansfield)	Maswsons Concrete and Quarries PH: 1800 423 456	
PE-01	River Rock (Mansfield) - fine	Maswsons Concrete and Quarries PH: 1800 423 456 or similar	
PL-OG(E)	Red Gum Chips - Fine	Maswsons Concrete and Quarries PH: 1800 423 456	
PL-OG	Red Gum Chips	Maswsons Concrete and Quarries PH: 1800 423 456	
PV-01	BrieleyExposed Aggregate Concrete - Install with white cement. Apply retarder to the surface after pouring and pressure washed off to achieve the desired look	Geo Stone	
PV-02	Mixed brick paving from London Range - London Bowral Blue, London Chestnut, London Regency Grey (230x114x65)	Bowral Bricks PH: (02) 4861 3031	
PV-03	Mixed brick paving from London Range - London Bowral Blue, London Chestnut, London Regency Grey (230x114x65)	Bowral Bricks PH: (02) 4861 3031	
PV-DE	Decompoed Granite - Install decomposed granite with cement stabilising as specified. Install edging to all interfaces wit turf and planting	Australian Native Landscapes or equivalent PH: 13 14 58	

TREE RETENTION AND REMOVAL PLAN



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