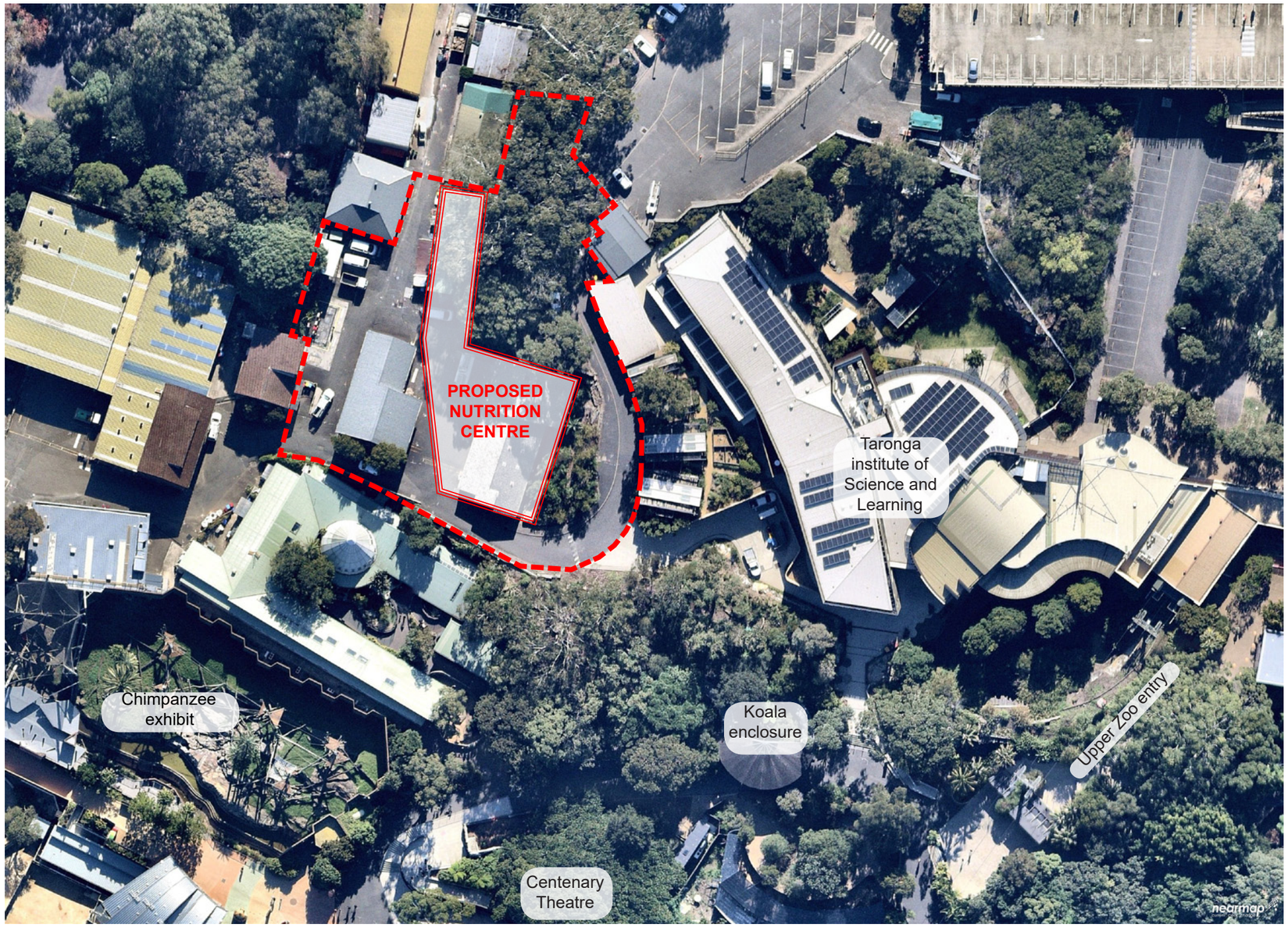
Taronga Wildlife Hospital, Sydney Nutrition Centre

Landscape DA report

December, 2021

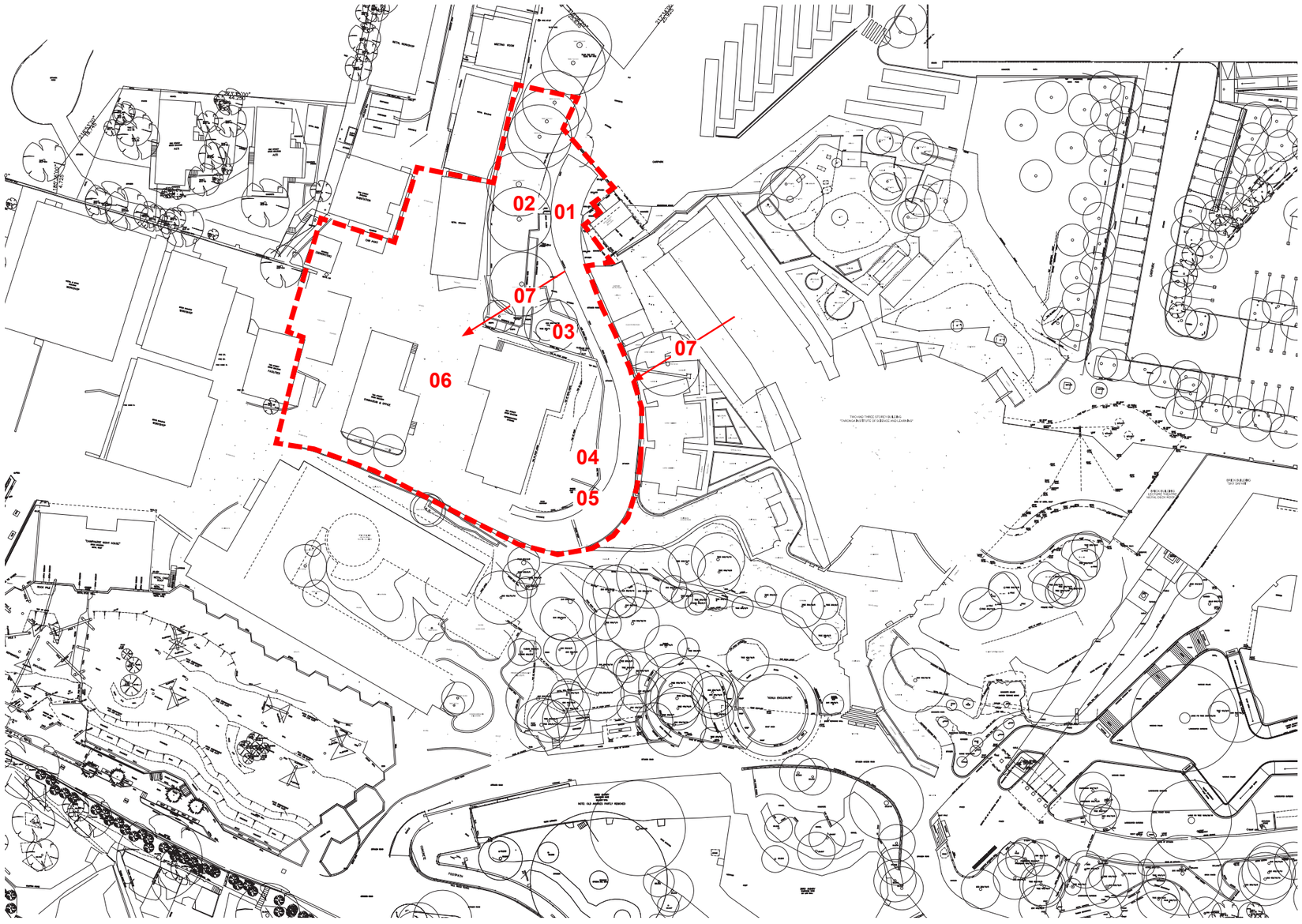
eximiadesign

Prepared for:
Taronga Conservation Society



Project boundary

The proposed Taronga Nutrition Centre will support the Zoo's logistical requirements for the provision of animal foods and the veterinary care of injured animals and wildlife. This landscape report provides landscape driven solutions and responses which seek to both practically and inspirationally embed architectural proposals into the framework and fabric of the site. A key focus of the landscape design is the health and wellbeing of animals and the humans who care for them.



01. The proposed Nutrition Centre is located within a key service area north western of the Zoo site. A service entry gate, and service building mark the entry of the service area. Leading from the gate a serpentine internal asphalt road provides logistical access to the Zoo's western service buildings and yards. The service road wraps around the proposed Nutrition Centre site and delineates its eastern and southern boundary.
02. On arrival through the staff gates mature Eucalypt trees command the space and cloak the area with broad spreading canopies. The trees sit atop a steep shotcrete cutting (up to 2:1 slope). Glimpses of the harbour are seen between the trunks. The area has lacked attention and is showing signs of lack of care through vegetative debri and weed encroachment.
03. An existing ramp and stair flight enable staff to negotiate between the upper and lower levels, down the steep bank.
04. Further down slop another cutting exists, as required to site the existing refrigerator storage building. Parent sandstone rock is expressed beneath a shallow skeletal soil. The quality of the bank is somewhat degraded with weeds, and sporadic native and exotic shrubs, which block views when rounding the corner of the internal service road, and the high quality harbour views to the south west. Additionally, an old sandstone block kerb / garden edge has deteriorated with many of the loose stones off alignment and out of place. Opportunity exists to remake the landscape with design intent.
05. Undefined footpath along service road. Opportunity to clarify for pedestrian safety.
06. To the west of existing building lies asphalt hardstand for vehicle movements and site logistics.
07. Due to the location of the site on the upper slopes of the zoo distant views of the harbour can be glimpsed at various locations. In particular harbour views from the Taronga Institute are significant and should be preserved.

- Create an welcoming entry for zoo staff.
- Support Zoo logistics through maintenance free landscapes.
- Improve the visual quality of the utilitarian landscape.
- Connect with Country, and bolster local biodiversity through the use of locally indigenous plant species.
- Utilise existing and proposed tree cover to shade facades reducing reliance on mechanical air conditioning.
- Upgrade accessible connections to modern standards.
- Improve the landscape setting around building break out spaces.
- Maximise sunlight access to ground level windows set against steep cuttings.

CONNECTING WITH COUNTRY

In acknowledgment of the Cammeraigal people principles of connecting with Country have been incorporated through the use of indigenous planting and the creation of an immersive landscape experience where users are able to rest within a dappled filigree of sun and shade cast by surrounding trees, and internal building spaces view out to a forested, multi-stratum landscape.

NUTRITION CENTRE LANDSCAPE

The proposed Nutrition Centre replaces existing warehouse shed style buildings within the 'back of house' area adjacent an internal access road in good location to logistically accept food deliveries. The landscape zones between the access road and new buildings are the primary focus of landscape amendment and rejuvenation.

To the east of the 'north wing' a steep shotcrete bank retains a line of mature Eucalypt trees. The un-maintained understory will be rejuvenated through mass planting of locally indigenous plant species to create a rich biodiverse tapestry and a visually pleasing landscape. The landscape design will aim to support notions of health and wellbeing for both animals and humans building upon the embrace of the over-arching tree canopies and dappled filigree of light and shade.

To the east of the 'south wing' an existing embankment will require modification to accept additional eastward cutting and lowering of the ground level to accommodate the new building, access drive, and external plant. It is therefore necessary to rejuvenate the bank in accord with the new condition and construction impact. The existing bank is somewhat degraded having been unattended for some time. A range of sparse eclectic large native shrubs currently sit on shallow gravelly soil over sandstone parent material - exposed at lower levels due to former cutting of the bank for the existing building. The garden is of low quality and visually unappealing and the large shrubs impedes clear views from vehicles rounded the corner of the road.

The proposed landscape seeks to rejuvenate the bank through new indigenous planting of low shrubs to maintain visibility from vehicles whilst using the access drive, and maintain views across to the city from the Institute offices. Planting will also seek to provide shade to the eastern facade where possible, and mask views of external plant.

ESD / Climate resilience and adaptation

Eximia Design attended a series of workshops for the project identifying potential risks and solutions to ensure the environment and climate are well considered. Refer to sustainability reporting for outcomes.

HERITAGE

Landscape responses to heritage items have been developed under advice of Taronga Zoo's heritage representatives. In particular the landscape design has incorporated an existing sandstone heritage wall as a feature element of the arrival sequence.

MATERIALITY & URBAN ELEMENTS

All urban design and landscape materials are to be robust, hard wearing, non slip, easily cleaned, and low maintenance. Generally, materials are to be cost effective and rudimentary, with the exception of key usage spaces where higher quality materials and finishes will be incorporated to offer a more visually pleasing and inspiring spaces. The application of these materials is proposed in a way that creates a unique sense of place whilst complementing the surrounding urban context and contributing to the sense of public domain continuity.

Detailed design of elements such as paving, furniture, fencing and lighting will be developed further during detailed design.

ACCESSIBILITY

Universal access has been incorporated into the public domain through graded pavements and walkways of nonslip material to ensuring all age groups and degrees of mobility can access site amenities comfortably.

LIGHTING

Lighting of external spaces will be provided to ensure access points are well lit, improving visibility and the sense of safety. Lighting of the Public space will ensure safe levels of illumination for movement, whilst considering the impact animals. Unobtrusive lighting will be incorporated where appropriate to enable night time staff usage.

Public domain lighting will ensure adequate levels of illumination for nighttime events and will be delivered in an artful way to express key features of the design – architectural façade elements, landscape features, and wayfinding signage.

DRAINAGE

Drainage has been developed and coordinated with the project Civil engineer. Key issues include:

- Capturing overland surface flows,
- Capturing seepage flows off rock shelves,
- Drainage to the base of steep embankments and cuttings,
- Drainage around buildings, and
- Minimising sheet flow across public pavements.

IRRIGATION

TEMPORARY

Landscape contractor to provide a temporary irrigation system for the duration of the plant establishment period. Irrigation delivery is to be monitored and adjusted according to climatic influences ensuring soil moisture is retained at the rootball of each plant. Do not set and forget. Ensure over-watering does not occur as may cause root rot and death of plants. The plant species nominated should not require excessive amounts of water. Remove the irrigation system at the end of the establishment period.

FULLY AUTOMATIC DRIP

Contractor to Design and Construct a fully automatic (electrical solenoid valve system) sub-surface drip irrigation system equal to Rain Bird XFS copper coloured dripline with copper shield technology in accord with the manufacturers specifications. The system is to include moisture sensors enabling shut down during rain periods, and be controlled by the B Hyve controller and remote phone app (or similar) and / or be connected to the Zoo's site wide services management system. System coverage to all newly planted garden zones. Contractor to provide usage and maintenance advice, directions, and manuals to the property owner to ensure knowledge transfer and effective long term operation.

SOIL

Due to the need for excavations on site, and the presence of underlying sandstone material it is recommended that site VENM be used for garden beds comprising predominantly of crushed sandstone. The use of crushed sandstone is reflected through the use of endemic native species of the local sandstone ridge area which will thrive in the high silica based low nutrient material.

PLANTING DESIGN

Plant selection has been developed through analysis of the niche conditions of the site and the conditions altered/created by the proposed development. Access to sunlight, deep shade, wind, reflected light, absorbed heat, high exposure, varying soil depths, soil types, and access to rain are all conditions influencing plant selection decisions.

Additional to physical and environmental considerations plant selection around high amenity areas has been developed in order to provide a lush and rich visual aesthetic. Complimentary foliage, colour and textures have been selected to create visual harmony.

A range of species will be used to promote biodiversity and robustness within the planting scheme. Low-growing plant species will be located where appropriate to ensure clear views and site lines.

Consideration has also been given to the incorporation of low water demand and low maintenance plant species in all areas to reduce mains consumption and fertiliser contamination of drainage water.

The recommended plant species have been selected based on environmental conditions at the time of installation. Over time landscapes evolve. Over time the planting palette will require modification to changing conditions.

PLANT QUANTITIES

Where specific plant quantities have not been provided the following specification will be applied to the planting design during design development:

Specimen	Pot Size	Spacing	Qty / m2
Tree	100 ltr	As shown	na
Screen shrub	200mm	800mm	1.56
Small shrub	140-200mm	600mm	2.78
Groundcover	140mm	400mm	6.25
Accent	300mm	Individual placement	Min 8% of planting

PLANT ESTABLISHMENT & MAINTENANCE

The landscape will be maintained to keep all plant material in a state of health and vigour after practical completion. A works program will be developed specifying the required works to be undertaken during plant establishment. A logbook will be maintained detailing works undertaken. Works will include, but not be limited to:

- Monitoring the irrigation system on a weekly basis to ensure plants are not under or over irrigated,
- Replacing dead plant material to achieve a complete cover of planting without obvious gaps in planting at final completion,
- Replenishment of mulch as required to provide cover to the soil surface minimising weed encroachment,
- Suppression of weed growth,
- Low phosphorus nutrient will be provided to indigenous plant groupings, and a broad spectrum fertilizer applied to exotic plant groupings to satisfy differing chemical requirements,
- Selective pruning / crown lifting / canopy shaping of trees to remove potential future structural defects, establish branching above head height, etc.

TREE MANAGEMENT PLAN

Existing trees to be retained

Existing trees to be removed (refer Arborist report)

29 x proposed trees

Ehae - Eucalyptus haemastoma (5), 800Ltr.

Ame - Acacia melanoxylon (4), 100Ltr.

Fbe - Flindersia benettiana (4), 100Ltr.

Pmu - Polyscias murrayi (4), 100Ltr.

Bse - Banksia serrata (4), 100Ltr.

Cgu - Ceratopetalum gummiferum (8), 100Ltr.

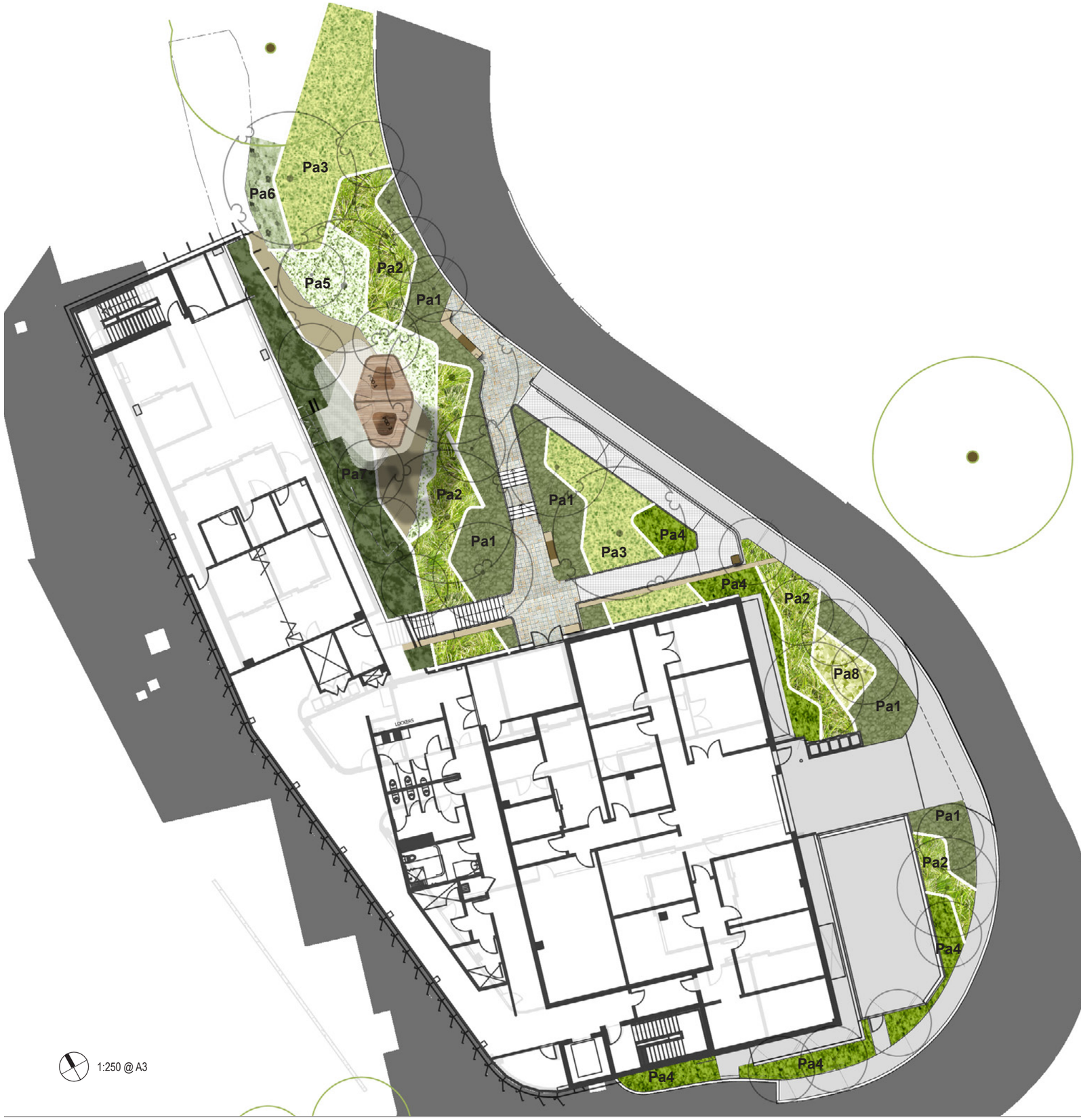
For tree protection measures refer Arborist report.

NUTRITION CENTRE
LANDSCAPE PLAN

KEY

01. Existing internal service road to remain.
02. Concrete footpath to edge of service road.
03. Building entry pavement opposite security kiosk entry. High quality masonry unit pavement of earthen tones to promote connection to the sandstone ridgetop country. Provide sandstone block with timber top seating for user amenity. Transition to lower level via stairs. Concrete base drop edge to retain elevated levels. Balustrade to western edge to serve as barrier to steep bank.
04. Equal access ramp co-located with entry pavement for user equity. Provide mid landing seat for user amenity. Ramp to be elevated with mesh deck to maximise soil volume and root growth area for healthy growth of replacement trees.
05. New stairs down to level 2 to replace the existing aged steps.
06. Heritage wall retained.
07. Planting area. Retain existing soil and levels to top of bank.
08. Existing shotcrete bank to be retained to be maintained.
09. Elevated deck and external enclosed privacy pods to provide respite for the mental health and wellbeing of staff. Canopy over to provide rain shelter.
10. Proposed trees to enhance the landscape setting and create a stronger connection country through bringing landscape into building external vistas and immersing the external deck and pods in ‘forest’.
11. New replacement Eucalypt species to replace the existing trees requiring removal.
12. Proposed retaining wall adjacent building facade to take up levels against steep bank. Building L3 cantilever over.
13. Driveway access to loading dock.
14. Concrete maintenance access path to skirt building base and provide overland flow drainage path.
15. Plant room with side access off road verge path.
16. New landscape to degraded bank.
17. Extend landscape along south facade.
18. Level 3 architectural.
19. Level 2 architectural.

NUTRITION CENTRE
UNDERSTOREY PLANTING PLAN



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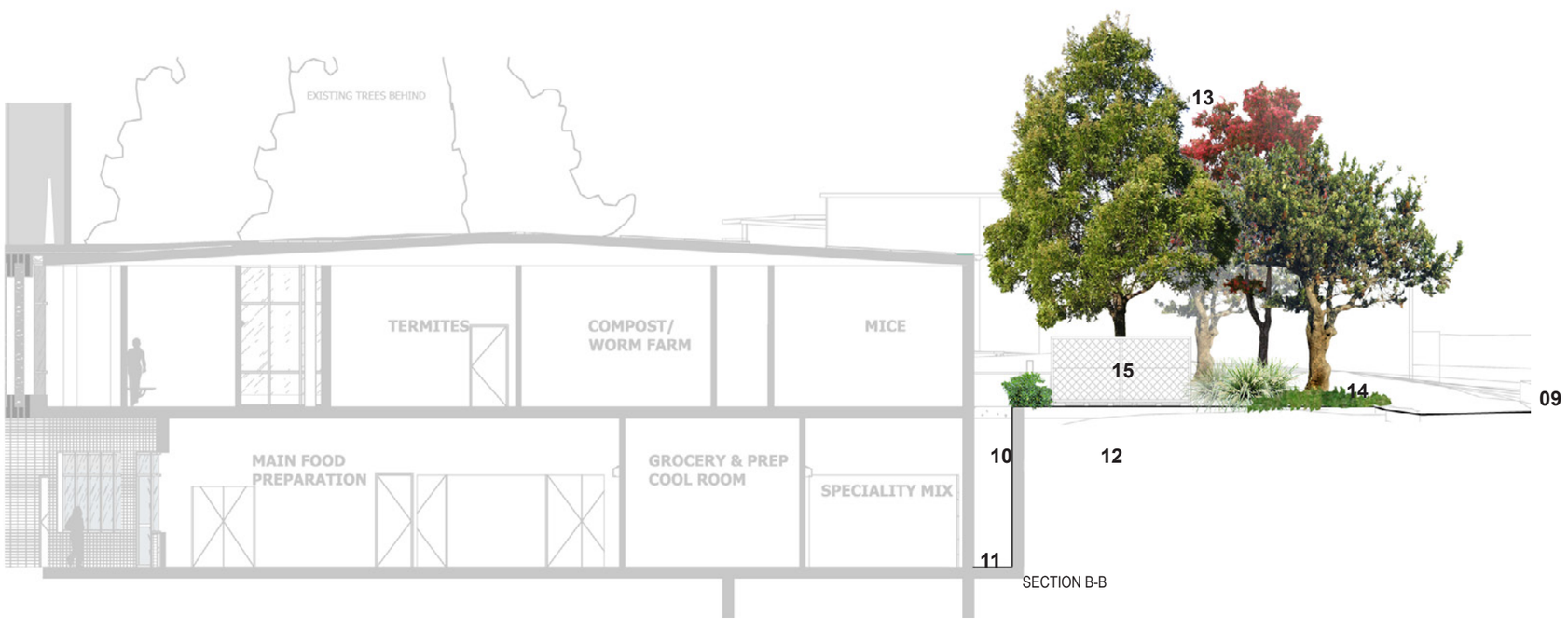
KEY

Pa1	Low growing native groundcover adjacent pathways to maintain clear access. Einadia hastata, 200mm @ 500 centres.
Pa2	Lomandra longifolia, 200mm @ 600 centres.
Pa3	Acmena ‘Allyn Magic’, 200mm @ 600 centres.
Pa4	Goodenia ovata, 200mm @ 600 centres.
Pa5	Cascading groundcover to mask top of shotcrete bank. Carpobrotus glaucescens, 200mm @ 800 centres.
Pa6	Cascading groundcover to mask top of shotcrete bank. Grevillea obtusifolia, 200mm @ 600 centres.
Pa7	Base of shotcrete bank / shaded location. Pollia crispata, 150mm @ 600 centres.
Pa8	Banksia ‘Birthday Candles’, 200mm @ 400 centres.

SECTIONS

SECTION A-A



SECTION B-B

K E Y

North wing building shotcrete bank interface

01. Retain against building line to prevent cutting into shotcrete bank.
02. Site crushed sandstone VENM soil profile.
03. Low growing groundcover to retain light permeation into lower ground windows. Shade tolerant duet to location beneath building overhang. Indicative species: Pollia crispata. Irrigation required to supplement water needs in building rain shadow.
04. Cascading species to cloak shotcrete bank masking from view.
05. Tall slender native tree to create a forest immersion external pod and deck experience.
06. Replacement canopy Eucalypt.
07. Low growing native understorey planting.
08. Central access path and stair flights.

Main building east cutting and bank treatment

09. Existing road.
10. Structural wall retaining cutting.
11. Concrete path graded and drained to accommodate seepage and overland flow around rear of building.
12. Crushed sandstone site VENM soil mix.
13. New native tree planting to shade live feed facade and assist with internal temperature control. Crown lift to maintain clear views past trunks. Located to maintain harbour views from the Taronga Institute building.
14. Low growing native planting to maintain vehicle and pedestrian views when rounding the road corner.
15. Bin store.

INDICATIVE LEVELS