

INTEGRATED NEPEAN HOSPITAL - CARPARK
KINGSWOOD NSW
LANDSCAPE DEVELOPMENT APPLICATION
OCTOBER 2017

PREPARED FOR:

HEALTH INFRASTRUCTURE NSW

PREPARED BY:

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In collaboration with
BYN architecture

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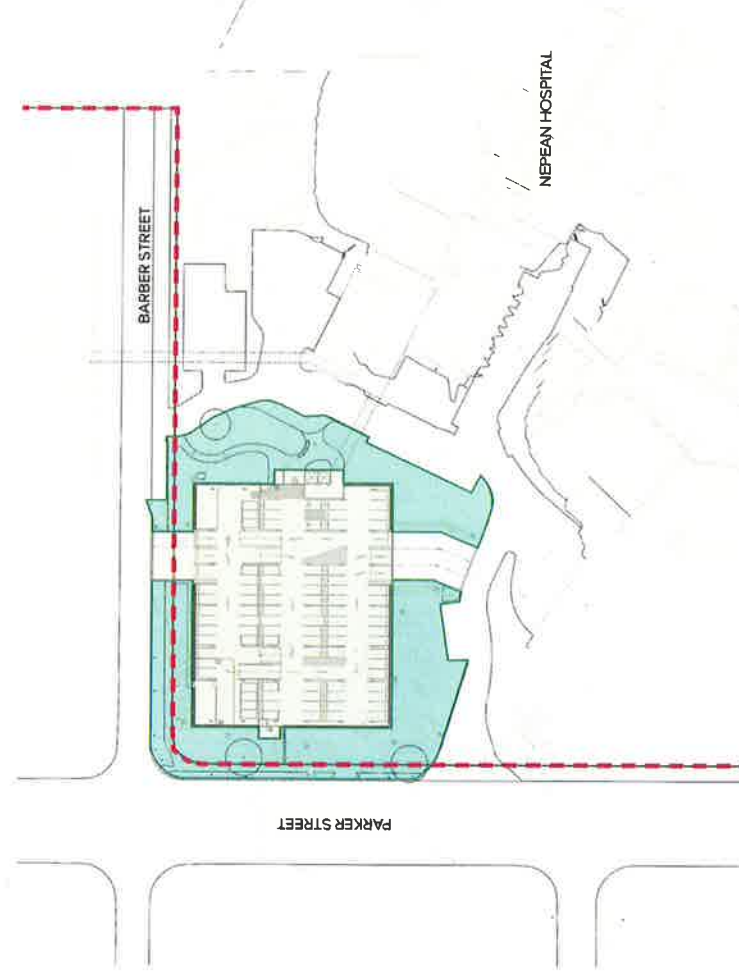
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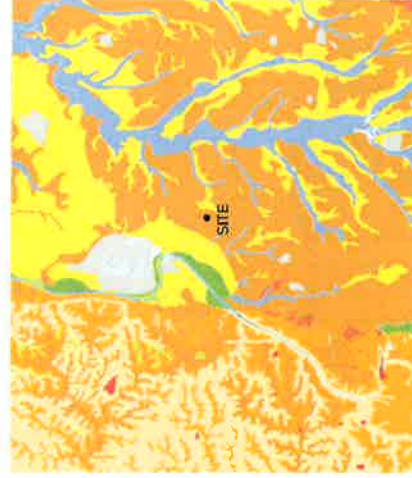
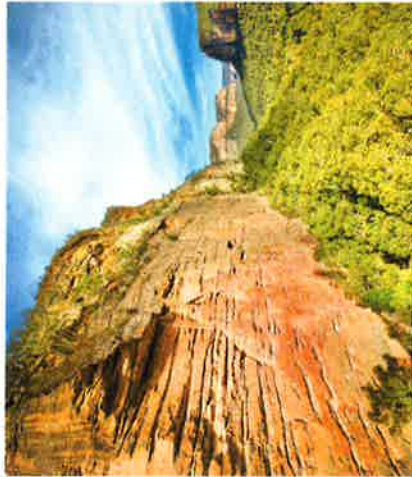
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SITE LOCATION



SCOPE OF LANDSCAPE WORKS



SOIL LANDSCAPE

Australian Soil Classification: kurosolis
Great Soil Group: solodic / podzolic
Hydrologic Soil Group: slow infiltration
Land and Soil Capability: moderate limitations
Information gathered from environment.nsw.gov.au
Graphic adjacent: excerpt from Soil Landscape Map

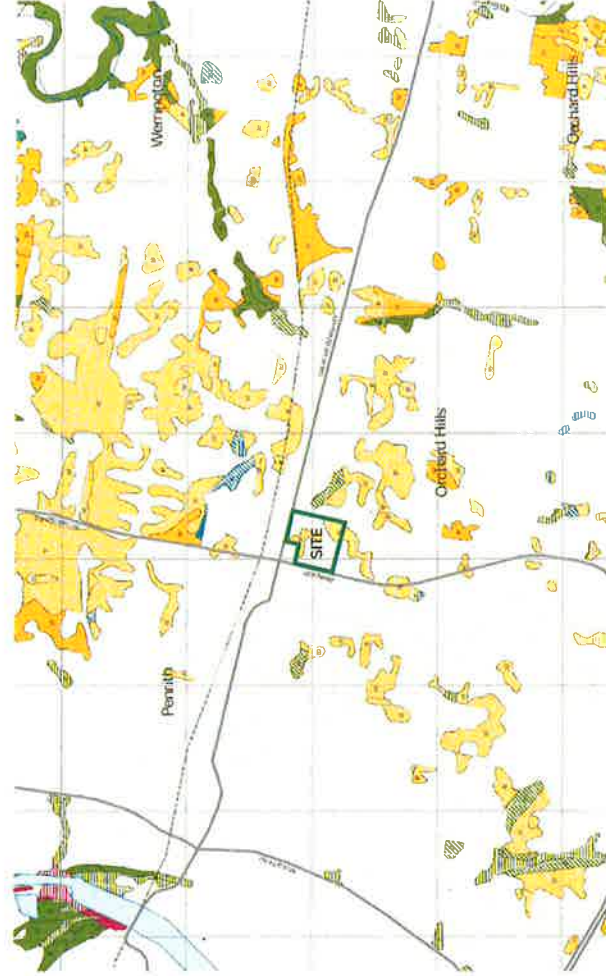
Below: excerpt of the map of Native Vegetation of the Cumberland Plain

KEY OBSERVATIONS

The Blue Mountains National Park lies directly west of the Nepean Hospital and is the dominant landscape feature in the region, providing a natural outlook and distinct identity for the Penrith cityscape. A geomorphological marvel, the blue mountains striking topography and highly textured and stratified rock faces stand in stark contrast to the soft undulating carpet of green, which at first glance appears almost monocultural in its consistency, concealing the ceaseless processes of succession and adaptation occurring within the incredible variety of ecological communities growing within the microclimates of the forest.

Acting as a natural boundary between the urban build up of Penrith and its surrounding suburbs and the Blue Mountains National Park, lies the Nepean River. The river also demarcates a major transition in topography, microclimate, and vegetation type. Little remains of the great Cumberland Plains Woodland within the urban fabric of Penrith, however remnants still remain in proximity to the Nepean Hospital, harkening back to a time when great stands of gum trees soared above dense understoreys of endemic shrubs and grasses.

The Nepean Hospital and the surrounding suburb of Kingswood would have been historically covered with Cumberland Plain Shale Woodland, which is now classified as a critically endangered ecological community of the Sydney Basin Bioregion. It typically occurs on flat to undulating terrain, at elevations up to 350m A.S.L., on clay based soils. The community typically has several vegetation layers in its natural state, with the tree canopy usually dominated by *Eucalyptus moluccana* (grey box), *Eucalyptus tereticornis* (forest red gum), and *Eucalyptus fibrosa* (red ironbark), complemented with other locally dominant species depending on variations in the landscape. Smaller trees and shrubs make up the understorey layer with the ground layer consisting of a mix of grasses and herbs. This community is of great importance, being a key example of coastal grassy woodland, and is key to maintaining connectivity between vegetation corridors allowing seasonal migration of native fauna.





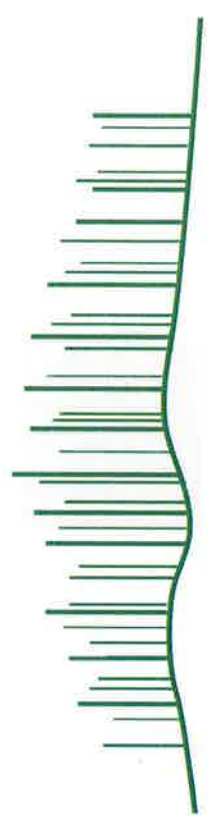
NATURAL LANDFORM

Maintain natural topography around the proposed building mass to ground the site in its regional landscape context and express the undulating ridges and valleys of the Blue Mountains



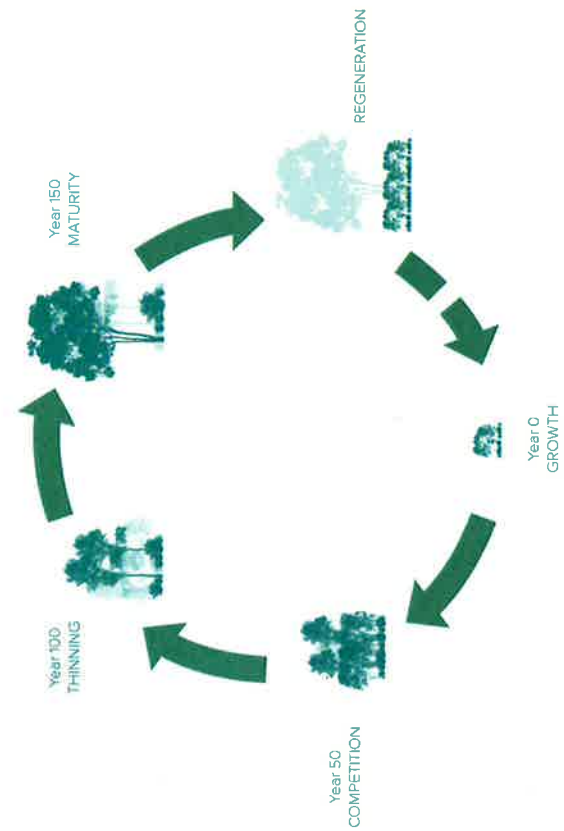
STRATIFICATION + UPLIFT

Introduce layered canopy planting to the landscape surrounds to mitigate the proposed building presence and establish human scale to the ground level and suspended walkway experience



SEEDING + SUCCESSION, MESSY ECOSYSTEMS

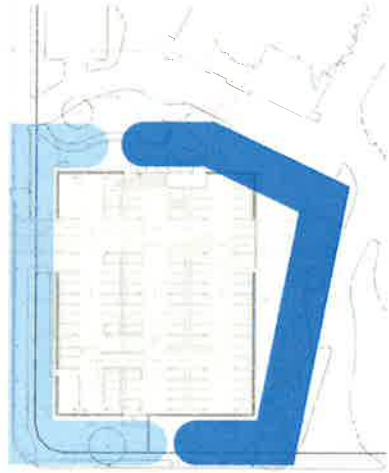
Establish a varied composition of endemic planting to re-introduce ecological communities, provide resilience and sustainability to the planting, and allow for natural succession according to soils and microclimate





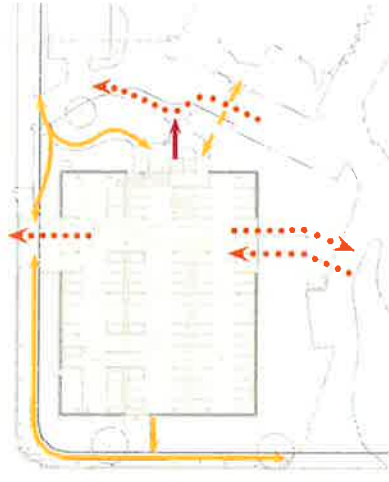
TREE MANAGEMENT

- Existing Trees Retained
- Existing Trees Removed



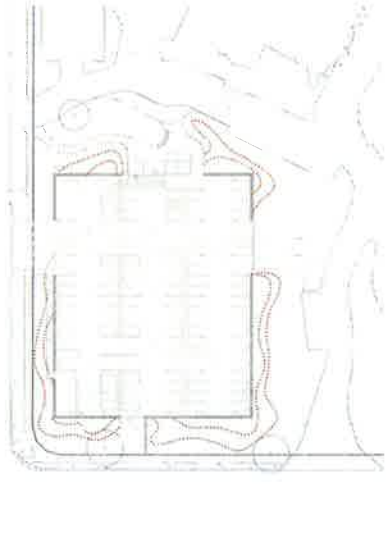
MICROCLIMATE

- Mostly sunny microclimate
- Mostly shady microclimate



CIRCULATION

- Pedestrian paths of travel - ground
- Pedestrian paths of travel - elevated
- Vehicle Access (including ambulance access bay)
- Emergency access from lift to ambulance access bay



LANDFORM

- Indicative localised mounding
- NOTE: All existing levels at boundary and around existing trees to be maintained



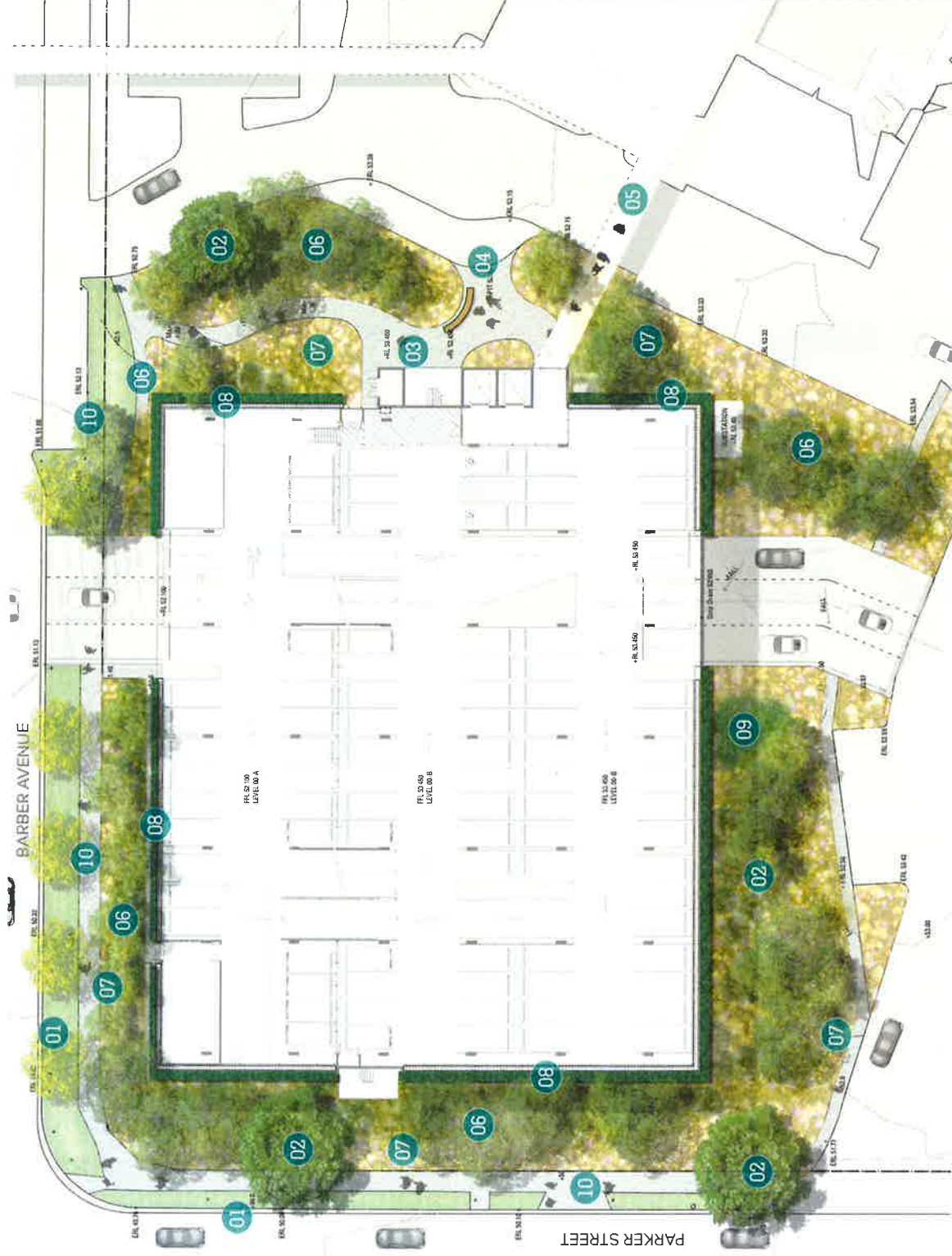
PLANTING ZONES FOR MESSY ECOSYSTEMS

- Green Wall
- Native Matrix - low grasses + groundcovers only
- Native Matrix - taller screening shrubs
- Bioretention Planting



CANOPY COPSES

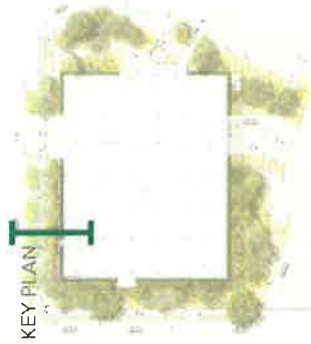
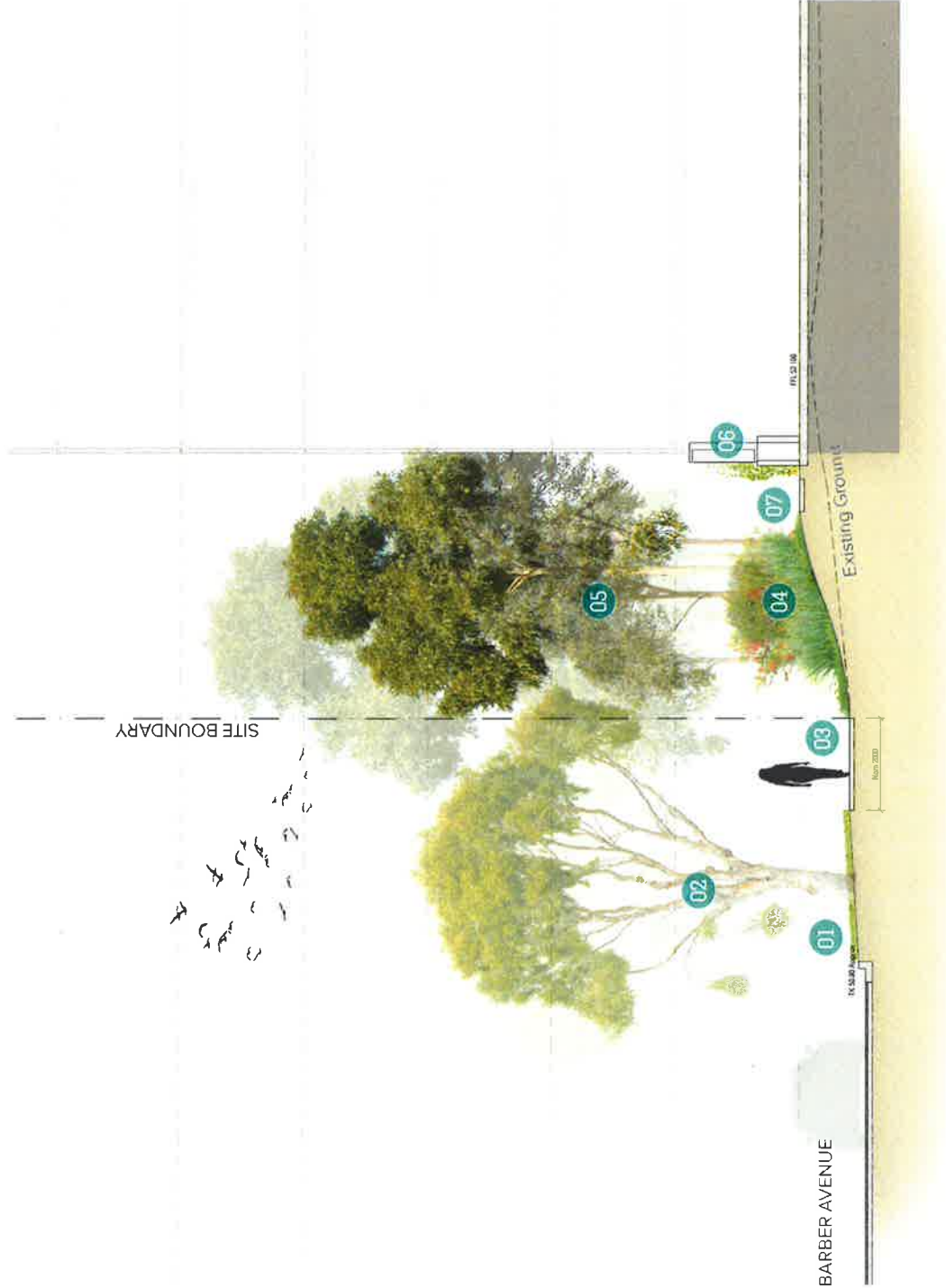
- Proposed Tree Canopy Character



LEGEND

- 01/ New street trees in full verge to Council approval
- 02/ Existing mature trees to be retained
- 03/ Proposed concrete forecourt and pathway with bench seating to link carpark pedestrian egress with existing and future footpath networks
- 04/ Proposed ambulance lay-by for emergency access to carpark egress - detail design to be coordinated with traffic engineer
- 05/ Proposed elevated walkway to pass through tree canopies
- 06/ Proposed clustered 'naturalistic' tree planting to form dense copses for shade, softening of built form, and enhanced pedestrian amenity
- 07/ Proposed random matrix planting of Cumberland Plain Woodland species - grasses and low growing groundcovers only adjacent paths, hardstand, and beneath existing trees, layering to shrubs and trees in larger landscape pockets
- 08/ Proposed green wall planting to climb up retaining wall and cable rails system along architectural facade
- 09/ Proposed bioretention basin to engineers details to be planted with locally native riparian plants
- 10/ Existing public domain concrete footpath to be widened to site boundary in accordance with Penrith Public Domain Technical Manual

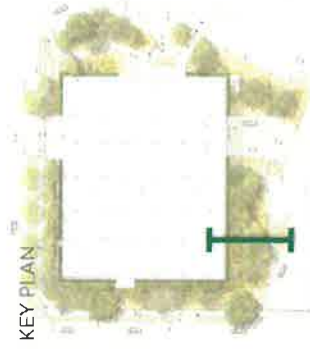
0 4 8 12 16 20m
SCALE 1:200 @ A1



LEGEND

- 01/ Existing public domain turfed verge to be retained
- 02/ Proposed new street trees to Council approval
- 03/ Existing public domain concrete footpath to be widened to site boundary in accordance with Penrith Public Domain Technical Manual
- 04/ Proposed random matrix planting of Cumberland Plain Woodland species - grasses and low growing groundcovers only adjacent paths, hardstand, and beneath existing trees, layering to shrubs and trees in larger landscape pockets
- 05/ Proposed clustered 'naturalistic' tree planting to form dense copses for shade, softening of built form, and enhanced pedestrian amenity
- 06/ Proposed green wall planting to climb up retaining wall and cable trellis system along architectural facade
- 07/ Proposed maintenance path

0 1 2 3 4 5m
SCALE 1:50 @ A1



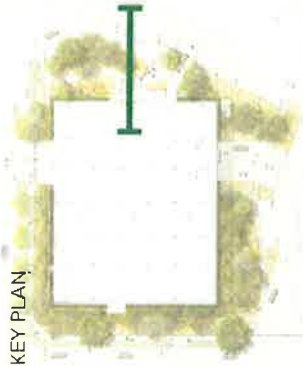
LEGEND

- 01/ Existing mature trees retained and protected
- 02/ Natural landform to be maintained where possible, grading to generally fall away from building towards existing kerb and gutter
- 03/ Proposed random matrix planting of Cumberland Plain Woodland species - grasses and low growing groundcovers only adjacent paths, hardstand, and beneath existing trees, layering to shrubs and trees in larger landscape pockets
- 04/ Proposed clustered 'naturalistic' tree planting to form dense cupuses for shade, softening of built form, and enhanced pedestrian amenity
- 05/ Proposed green wall planting to climb up trellis structure at base of build form

SCALE 1:50 @ A1



KEY PLAN



LEGEND

- 01/ Proposed concrete forecourt and pathway to link carpark pedestrian egress with existing and future footpath networks
- 02/ Proposed clustered 'naturalistic' tree planting to form dense copses for shade, softening of built form, and enhanced pedestrian amenity
- 03/ Proposed random matrix planting of Cumberland Plain Woodland species - grasses and low growing groundcovers only adjacent paths, hardstand, and beneath existing trees, layering to shrubs and trees in larger landscape pockets
- 04/ Natural landform to shed away from built form towards kerb and gutter

0 1 2 3 4 5 m
SCALE 1:50 @ A1

INDIGENOUS MATRIX PLANTING

Landscape areas shall be planted with a random matrix of endemic shrubs, grasses, and groundcovers which feature in the local Cumberland Plain Woodland community. The randomised planting approach will ensure that the species most suited to the conditions will thrive and natural competition will result in the best specimens establishing into a many-layered native Australian garden featuring contrasting vegetation forms, colour, and textures. The landscape within the Nepean Hospital will thus become an important link in the local ecological communities.

Different compositions of species will be planted according to performance criteria. A matrix of low native grasses and groundcovers will be planted adjacent pathways and against the built form to maintain access and sightlines, with a matrix of larger native shrubs to be planted more centrally within the garden beds.

TREE COPSES

Tree planting will be comprised entirely of endemic species such as those typically found within the Cumberland Plain Woodland, such as *Eucalyptus moluccana*, *Eucalyptus tereticornis*, and *Corymbia maculata*.

The new trees will be planted according to the capacity of the garden beds to accommodate them. Semi-mature trees will be planted to specific locations where space is limited (such as around existing trees and the elevated walkway), and a randomised mix of juvenile trees will be integrated into the matrix planting approach to open landscape areas to create a dense series of copses. This will result in natural competition and varied growth rates creating a many-layered canopy, breaking down the visual presence of the carpark building, creating a naturalistic native landscape aesthetic, and a pedestrian experience of being amongst the native bushland of the nearby Blue Mountains National Park.



GREEN WALL SYSTEM

The base of the carpark building is proposed to be encapsulated with a lush enclosure of climbing plants growing up a cable trellis system, layered over the architectural expression of vertical steel blades.

The green wall cable trellis system will be installed between level 00 and level 01 of the building facade, with the final configuration and fixing methodology to be determined during future detail design.





