

McINTOSH&PHELPS

**GLENWOOD
HIGH SCHOOL**

**LANDSCAPE DESIGN
STATEMENT**

Prepared for:
NSW Department of Education
School Infrastructure NSW



Image:
Blacktown, Glenwood - https://australia247.info/explore/new_south_wales/city_of_blacktown/glenwood/glenwood_lake.html

10 November 2021

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SCHOOL


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Prepared for:
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School Infrastructure NSW

Report Register

Project Landscape

Architect & Reviewer: Glenn McIntosh



Issue: C

Position: Director, Registered Landscape Architect
McIntosh & Phelps

Date: 10.11.30

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INTRODUCTION

This Landscape Design Statement accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of a State Significant Development Application (SSD - 23512960). The development is for upgrading works comprising alterations and additions to Glenwood High School at 85 Forman Avenue, Glenwood. The site is legally described as Lot 5227 DP 868693.

The site is roughly rectangular in shape, with a total area of 60,790m² and street frontages to Forman Avenue to the south and Glenwood Drive to the east. Glenwood Reserve adjoins the northern and western boundaries of the school.

This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs), identified in the **Table 1**.

The proposal

The proposed development seeks to upgrade Glenwood High School. The upgrade consists of the following alterations and additions:

- Construction of a new three-storey building at the north-eastern portion of the site facing Glenwood Park Drive which will accommodate approximately 54 learning spaces.
- Refurbishment of existing Building Block A (ground floor only) to provide one new support unit within the space of an existing general learning space;
- Refurbishment of Building Block D (ground floor only) to provide an additional office space and storeroom;
- Refurbishment of Building Block E to re-purpose it on the ground floor for computer learning spaces, staff and administration as well as upgrades to the library on the first floor;
- Refurbishment of Building Block J to re-purpose it from visual arts and performing arts to learning spaces and workshops for food tech and woods/metal unit; and
- The proposed development will also involve ancillary works at the site associated with the proposed upgrades

Table 1

Planning Secretary's Environmental Assessment Requirements

Planning Secretary's Environment Assessment Requirements		
Section 4.12(8) of the Environmental Planning and Assessment Act 1979		
Schedule 2 of the Environmental Planning and Assessment Regulation 2000		
Application Number	SSD-23512960	
Project Name	Glenwood High School	
Location	85 Forman Avenue, Glenwood Drive	
Requirement	3. Trees and Landscaping	Report Ref.
	<ul style="list-style-type: none"> a detailed site-wide landscape strategy, that: <ul style="list-style-type: none"> details the proposed site planting, including location, number and species of planting, heights of trees at maturity and proposed canopy coverage. 	1.0
	<ul style="list-style-type: none"> provides evidence that opportunities to retain significant trees have been explored and/or informs the plan. 	2.4
	<ul style="list-style-type: none"> Considers equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation. 	1.0, 1.1, 2.0
	<ul style="list-style-type: none"> demonstrates how the proposed development would: <ul style="list-style-type: none"> contribute to long term landscape setting in respect of the site and streetscape. mitigate the urban heat island effect and ensure appropriate comfort levels on-site. contribute to objectives to increase urban tree canopy cover. 	1.0, 1.1, 2.0, 2.1, 2.3, 2.5
	<ul style="list-style-type: none"> a detailed landscape plan prepared by a suitably qualified person. 	Appendix 1.
	<ul style="list-style-type: none"> Relevant Policies and Guidelines: <ul style="list-style-type: none"> Draft Greener Places Design Guide (GANSW) Objective 30 of The Greater Sydney Region Plan - A Metropolis of Three Cities. Technical Guidelines for Urban Green Cover in NSW (Office of Environment and Heritage (OEH), 2015). 	2.3, 2.5

1.0 SITE WIDE LANDSCAPE DESIGN STRATEGY

The landscape design (drawings located in Appendix 1), aims to:

- Integrate the proposed new buildings and building works with the existing school site
- Arranging outdoor learning spaces connected to new class rooms
- Provide a range of external spaces for 1:1, small group and whole of class learning
- Define and integrate passive outdoor learning spaces, active play spaces and circulation networks
- Develop the design to retain significant trees
- Improve the long term landscape setting of Glenwood High School within its context and streetscape
- Investigate opportunities for the future rehabilitation of the Ecological Community on site (Cumberland Plain Woodland), and allow appreciation of its values through vistas and interpretation
- Mitigate heat island effect and ensure appropriate comfort levels on-site.
- Increase urban tree canopy cover

1.1 SEPP (Educational Establishments and Child Care Facilities)

The proposed landscape design addresses the State Environmental Planning Policy (SEPP), Educational Establishments and Child Care Facility Principles outlined in Schedule 4, School - Design quality principles. The following commentary directly responds to the relevant SEPP principles:

- **Principle 1 - context, built form and landscape**

The following have been used to develop the design:

- **Landscape context**

Glenwood High School is adjoined to the northern and western boundaries by Glenwood Reserve. This immediate connection to the Glenwood Reserve has allowed the landscape design to focus on the sites native landscape planting and stormwater overland flow to the existing vegetated drainage channel to the north of the site.

- **Aboriginal cultural heritage**

Through the design process the design team has developed a series of strategies to provide interventions for Connecting with Country opportunities identified in workshops with PTW and Tocomwall (Aboriginal Heritage Consultant)

- **Spacial organisation**

Consideration has been given to providing a mix of external spaces to ensure access to both passive and active play. Passive play spaces are generally located at edges and building alignments with active play formally defined with landscape planting and circulation networks. Play spaces are typically broken down into various scales to allow interaction and participation by small, medium, and large groups. Outdoor learning spaces are directly connected to the proposed new homebases.

- **Orientation and climate**

The proposed design takes advantage of the existing zone of demountable buildings whilst maintaining existing outdoor active playing games courts, cricket nets, Covered outdoor learning area (COLA) and large active playing field, with the architectural planning maximising access to outdoor play. The proposed tree planting has been selected to provide access to shade in summer and to augment the remnant stand of Cumberland Plain Woodland on the site.

- **Streetscape**

Existing tree planting along the Glenwood Park Drive will be retained and is augmented with additional low groundcover and tree planting to improve the school's street address and screen the proposed new school buildings within the building setback from neighbouring residential areas.

- **Principle 2 - sustainable, efficient and durable**

Native species have generally been selected to ensure resilient species suited to the site, and areas microclimatic conditions. The selection of suitable plant species will minimise the landscape areas requirements for irrigation and ongoing maintenance.

- **Principle 3 - accessible and inclusive**

The proposed design rationalises the existing central circulation network to improve accessible wayfinding. The addition of the proposed circulation path to the north of the proposed new buildings improves wayfinding and access from the existing school to the new school development and associated external spaces.

- **Principle 4 - health and safety**

Generally the landscape planting is arranged as trees and low groundcover planting to maximise passive surveillance and improve Crime Prevention through Environmental Design (CPTED) Principles.

- **Principle 5 - amenity**

Improved landscape amenity has been addressed by providing engaging, flexible outdoor learning and play spaces. Outdoor learning spaces connect directly with homebases within new landscape planting.

- **Engaging Spaces**

Glenwood High School contains a Cumberland Plain Woodland patch. This stand of remnant trees is bordered by an adjacent concrete planks (stepping stones) with interpretation panels that provide a tangible understanding of the Cumberland Plain Woodland plant and animal species. The existing and augmented tree planting of the Cumberland Plain Woodland patch contributes to improving water absorption and reducing the heat island effect principles identified in the **Urban Green Cover NSW Technical Guidelines** Office of Environment & Heritage, viewed 21 September 2021, <https://climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Green-Cover>

- **Education**

Outdoor learning is provided in spaces directly connected to proposed class rooms. The outdoor learning spaces are designed to facilitate 1:1, small group, and whole of class learning.

- **Principle 6 - whole of life, flexible and adaptive**

Generally external landscape areas are appropriate for multiple uses and are designed to allow flexible and adaptable outdoor learning and play.

- **Principle 7 - aesthetics**

The external landscape spaces are arranged as a series of outdoor rooms, defined by groundcover and tree planting. The landscape planting is designed to provide a positive impact on the quality of the external spaces for learning and play, whilst also contributing to increased biodiversity and improving the schools identity within the local area.

2.0 LANDSCAPE PLANTING STRATEGY

The landscape planting strategy assists in integrating the proposed new buildings and built works with the existing Glenwood High School site by:

- defining outdoor learning spaces and circulation networks
- ensuring external areas provide opportunities for shade and solar access
- providing seasonal interest with deciduous tree planting and flowering plants
- increasing habitat and biodiversity opportunities
- capturing, slowing and filtering stormwater run-off from site

Generally the landscape planting is arranged as trees and low groundcover planting to maximise passive surveillance and improve Crime Prevention through Environmental Design (CPTED) Principles. Shrub planting is located in selected edges and boundaries to provide opportunities for views to terminate on planting and to screen views in and out, such as views towards new and existing service elements, including substations along Glenwood Park Drive footpath and the interface with the residential zone.

Opportunities for student engagement and education is provided with a proposed in-ground concrete planks (stepping stones) with interpretation panels at the edge of the existing Cumberland Plain Woodland patch. The walkway incorporates interpretation panels that describe plant and animal species of the Cumberland Plain Woodland community.

Refer Drawings DA-

LA-001, 002, 003 and 0020.

2.1 Species Selections

The majority of the proposed landscape planting has been selected from the Blacktown City Council “Vegetation Management Plan Guideline” Recommended Planting List. <https://www.blacktown.nsw.gov.au/files/assets/public/plan-and-build/blacktownvmpbooklet-2019-32-pages-web.pdf>

Proposed tree species have been selected from the Blacktown Development Control Plan, 2015, Part A - Introduction and General Guidelines, Appendix 1 Recommended tree species. <https://www.blacktown.nsw.gov.au/Plan-build/Stage-2-plans-and-guidelines/>

Species selected for large areas of proposed groundcover planting are identified as understory planting of the Cumberland Plain Woodland Community. The proposed groundcover planting are a mix of directed seeding, tubestock and 5L pots. Direct seeding species are derived from the Greening Australia Native Seed Services. <https://www.greeningaustralia.org.au/services-native-seed/>. The proposed areas of groundcover planting are located in zones of proposed building works. Note; no groundcover planting is proposed within the existing, fenced, Cumberland Plain Woodland patch. Refer section, 2.3 Cumberland Plain Woodland, below for proposed planting and works within the existing Cumberland Plain Woodland.

2.2 Trees to be removed

In the development of the school design the following trees have been identified for removal (Refer Appendix 1, Landscape Drawing DA-LA-0001) as part of the State Significant Development (SSD) works. Tree numbering is referenced from the Glenwood High School Arboricultural Impact Assessment, prepared by Ecological Australia (22 September 2020).

Logs and branches for trees identified for removal are to be located within the existing Cumberland Plain Woodland patch to improve opportunities for animal and bird habitat.

All other trees identified for removal are located within proposed building zones.

Trees removed for the DA:

- 87 *Eucalyptus tereticornis* Red iron gum
- 129 *Eucalyptus tereticornis* Red iron gum
- 323 *Eucalyptus tereticornis* Red iron gum

Trees removed for the SSD:

- 73 *Eucalyptus tereticornis* Red iron gum
- 581 - Existing dead tree

2.3 Cumberland Plain Woodland

All trees identified for removal are *Eucalyptus tereticornis*. One tree is located within the Cumberland Plain Woodland patch. *Eucalyptus tereticornis* is listed as tree species of the Cumberland Plain Woodland community. NSW Department of Primary Industries, viewed 21 September 2021, <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2008-2010/cumberland-plain-woodland-critically-endangered-ecological-community-listing>.

The Cumberland Plain Woodland is identified as an ecological community. The landscape design has incorporated suitable replacement tree planting of species from the Cumberland Plain Woodland community. Tree planting is proposed along the school's boundaries and within the school site, augmenting the school's existing tree planting.

A number of new tree planting species of the Cumberland Plain Woodland are proposed to augment the tree planting within the existing, fenced Cumberland Plain Woodland patch. (Refer Appendix 1, Landscape Drawing DA-LA-0001, 002, 003 and 0021).

Note; no groundcover planting is proposed within the existing, fenced, Cumberland Plain Woodland patch.

The proposed tree planting within the existing, fenced Cumberland Plain Woodland patch will involve the following process for each tree:

- Localised removal of grasses / weeds to a diameter of 1500mm from centre of proposed tree planting location
- localised excavation of hole for tree planting
- installation of suitable soil profiles (Horizon A and Horizon B soil profiles)
- installation of suitable slow release “tree tablet” fertiliser
- installation of weed suppression matting to a diameter of 1500mm from centre of proposed tree planting location
- installation of a 75mm mulch depth to a diameter of 1500mm from centre of proposed tree planting location
- installation of tree stakes or similar as required

Logs and limbs from trees identified for removal (Refer 2.2 Trees to be removed) are to be salvaged (where practical) and carefully placed within the existing Cumberland Plain Woodland patch to improve fauna habitat values. It is recommended that a Project Ecologist be present during the reinstallation of habitat features to inform on the suitability and placement of logs and limbs within the Cumberland Woodland Patch.

Restoration of the Cumberland Plain Woodland patch is not proposed as part of the proposed Glenwood High School development. The restoration and management of the Cumberland Woodland Patch within the site should be considered following development and detailed within a Biodiversity Management Plan (BMP). The plan should aim to maintain and improve biodiversity values within the Cumberland Woodland Patch detailing measures for weed control, enhancement of fauna habitat values, suitable plantings, monitoring, and management targets to be achieved during the implementation period. It is intended that the tree plantings within the Cumberland Woodland Patch (detailed above) form the basis of any future restoration of the Cumberland Woodland Patch. The long-term management of these trees (including monitoring and weed control), and the provision of suitable understory plantings, should be detailed within the Biodiversity Management Plan.

2.4 Retaining existing trees

The proposed external and landscape works have considered the school's existing trees by locating and designing the interventions to avoid or minimise encroachment (<10%) into the tree protection zones (TPZ), including the extent of any proposed cut and fill.

2.5 Tree Canopy Cover

An increased canopy cover of 40% has been identified as a target in the **Greater Sydney Regional Plan** Greater Sydney Commission, Objective 30 - Urban tree canopy cover is increased, view 21 September 2021, <https://www.greater.sydney/metropolis-of-three-cities>.

An indicative target for the Greater Sydney Region is also identified in the **DRAFT Greener Places Design Guide** increasing the current 21% canopy cover to a proposed 40% urban tree canopy cover by 2056 to align with the Greater Sydney Regional Plan. (Government Architect New South Wales, viewed 21 September 2021, <https://www.governmentarchitect.nsw.gov.au/guidance/greener-places-guide>).

The policy to increase tree canopy cover helps to improve amenity and comfort levels of students on site and mitigate heat island effect. Currently Glenwood High School has a canopy cover of 17.6%. The proposed landscape tree planting increases the area of canopy cover to 24.1% (Refer Appendix 1, Landscape Drawing DA-LA-0010) .

Appendix 1

Landscape SSDA Drawings

- DA-LA-001 Landscape Plan
- DA-LA-0002 Detail Landscape Plan, Sheet 1
- DA-LA-0003 Detail Landscape Plan, Sheet 2
- DA-LA-0004 Detail Landscape Plan, Sheet 3
- DA-LA-0005 Detail Landscape Plan, Sheet 4
- DA-LA-0010 Tree Canopy Cover
- DA-LA-0020 Landscape Materials and Finishes
- DA-LA-0021 Landscape Planting



POTENTIAL FUTURE REGENERATION OF THE CUMBERLAND PLAIN WOODLAND COMMUNITY INCLUDING STAGED REMOVAL OF WEEDS AND REPLACEMENT WITH NATIVE UNDERSTORY PLANTING.

VIEW CORRIDORS FROM GLENWOOD PARK DRIVE TO FACADE / GRAPHIC TREATMENT OF NEW BUILDING

1:5 GRADED TURF BANK, MASS PLANTING BED (MP) AT UPPER EXTENT AS SHOWN, MARRY BANK TO EXISTING LEVELS.

2 OUTDOOR LEARNING ZONE CONNECTED TO NEW HOMEBASES.

OUTDOOR LEARNING ZONE DEFINED BY:

- SEATING EDGE
- TREE AND MASS PLANTING

NEW TREE PLANTING TO EASTERN BOUNDARY

2 OUTDOOR LEARNING ZONE CONNECTED TO NEW HOMEBASES.

OUTDOOR LEARNING ZONE DEFINED BY:

- SEATING EDGE
- TREE AND MASS PLANTING

NEW TREE PLANTING IN MASS PLANTING (MP) TO EASTERN BOUNDARY AND EXISTING DRIVEWAY.

NEW PEDESTRIAN ENTRY FROM GLENWOOD PARK DRIVE

2 OUTDOOR LEARNING ZONE CONNECTED TO NEW HOMEBASES.

OUTDOOR LEARNING ZONE DEFINED BY:

- SEATING EDGE
- TREE AND MASS PLANTING

PLANTING SCHEDULE						
SYM	Botanical Name	Common Name	Height x Width	Pot	Spacing	QTY
Tree Planting						
Fa	Flindersia australis	Native teak ash	12m x 6m	100L	As Shown	23
Lc	Lophostemon confertus	Brush box	12m x 6m	100L	As Shown	9
Mq	Melaleuca quinquenervia	Paperbark	8m x 4m	100L	As Shown	20
Sg	Syncarpia glomulifera	Turpentin tree	20m+ x 6m+	200L	As Shown	22
Tree Planting (Cumberland Plain Woodland)*						
Cm	Corymbia maculata	Spotted gum	12m x 6m	25L	As Shown	7
Ec	Eucalyptus crebra	Ironbark	12m x 6m	25L	As Shown	7
El	Eucalyptus fibrosa	Red ironbark	12m x 6m	25L	As Shown	5
Et	Eucalyptus terebinctus	Forest red gum	12m x 6m	25L	As Shown	4
* Tree species planting within the existing Cumberland Plain Woodland						
Shrub Planting						
As	Acmena smithii	Lilly pilli	3m x 2m	25L	As Shown	190
Md	Melaleuca decora	White honeymyrtle	7m x 4m	25L	As Shown	10
Ri	Raphiolepis indica	Indian hawthorn	1.5m x 1.5m	25L	800mm	40
Wf	Westringia fruticosa	Coastal rosemary	1.5-2m+ x 1m	25L	800mm	40
Groundcovers						
Ci	Carex inversa	Knob sedge	0.7m x 0.7m	150mm	500mm	840
Dr	Dianella revoluta	Blue berry lily	0.7m x 0.7m	150mm	500mm	1000
Lj	Lomandra longifolia	Mat rush	0.7m x 0.7m	150mm	500mm	1000
Ju	Juncus ustatus	Common rush	0.6m x 0.5m	150mm	500mm	840
Groundcovers / understory (Cumberland Plain Woodland)**						
Ci	Carex inversa	Knob sedge	0.7m x 0.7m	-	Direct seeded	1920m2
Fl	Flax lily	Flax lily	0.7m x 0.7m	-	Direct seeded	
Lm	Lomandra filiformis	Mat rush	0.7m x 0.7m	-	Direct seeded	
Po	Poa labillardieri	Tussock grass	0.7m+ x 0.7m	-	Direct seeded	
Ju	Juncus ustatus	Common rush	0.7m+ x 0.7m	-	Direct seeded	
Th	Themeda australis	Kangaroo grass	0.7m+ x 0.7m	-	Direct seeded	
** Potential future regeneration of the Cumberland Plain Woodland Community including staged removal of weeds and replacement with native understory planting species identified, including suitable cover crop. Develop native seed mix, including planting (seeding) management and techniques with Greening Australia - Cumberland Seed Production Area (SPA); https://greeningaustralia.org						
LEGEND						
SITE BOUNDARY			EXISTING TREE TO BE RETAINED. T# (TREE NUMBER) REFER ARBORIST REPORT			
EXTENT OF PROPOSED EXTERNAL AND LANDSCAPE WORKS			EXISTING TREE TO BE REMOVED FOR DA. T# (TREE NUMBER) REFER ARBORIST REPORT			
NEW TURF (TF)			EXISTING TREE TO BE REMOVED FOR SSD. T# (TREE NUMBER) REFER ARBORIST REPORT			
EXISTING AND PROPOSED RESTORATION OF CUMBERLAND PLAIN WOODLAND (CPW)			NEW TREE PLANTING Gs (Genus species) REFER PLANTING SCHEDULE			
NEW GROUND COVER MASS PLANTING (MP) AND MULCH ONLY (MO)			PROPRIETARY QUATRO DESIGNS - 'FLINDERS' GRC BENCH SEATING WITH SECTIONS OF HARDWOOD TIMBER TOP			
NEW GROUND COVER GRASSES DIRECT SEEDING (DS)			ON SITE DETENTION BASIN (OSD)			
COLOURED CONCRETE			P1 PAVING TYPE 1 CONCRETE (POURED INSITU)			
STRUCTURAL SOIL ZONE (SSZ)			P2 PAVING TYPE 2 COLOURED CONCRETE (POURED INSITU)			
EXISTING MAJOR CONTOUR (1m INTERVALS)			P3 PAVING TYPE 3 PERMEABLE PAVING TO 'KITCHEN GARDEN' (6)			
EXISTING MINOR CONTOUR			TE TIMBER EDGE			
EXISTING CONTOUR REMOVED			TP TREE PIT			
PROPOSED NEW CONTOURS						
KEY						
1 EXISTING PATCH OF CUMBERLAND PLAIN WOODLAND.			4 OUTDOOR SEATING CONNECTED TO EXTERNAL ACTIVE PLAY AND PERFORMANCE SPACE.			
- RETAIN EXISTING TREES			5 NEW EAST - WEST CONNECTION PATH			
- POTENTIAL FUTURE REGENERATION WORKS MAY INCLUDE THE STAGED REMOVAL OF WEEDS AND REPLACEMENT WITH NATIVE UNDERSTORY PLANTING AND TREE SPECIES OF THE CUMBERLAND PLAIN WOODLAND			6 KITCHEN GARDEN WITH MIX OF NATIVE EDIBLE PLANT GROWING PLOTS AND RAISED PLANTER BEDS.			
- SEVERAL SPECIES OF THE CUMBERLAND PLAIN WOODLAND ARE IDENTIFIED IN THE EPFG UNDER SECTION 92.08. HAZARDOUS TREES / PLANTS 'TREES THAT MAY SHED LARGE BRANCHES'. AN ARBORCULTURAL ASSESSMENT SHOULD BE COMPLETED WITH RECOMMENDATIONS REGARDING LIMB AND TREE REMOVAL CARRIED OUT PRIOR TO ACCESS BEING PROVIDED.			- EXISTING PAVING TO PERIMETER OF GARDEN.			
2 PROVIDE OUTDOOR LEARNING ZONES DIRECTLY CONNECTED TO HOMEBASES TO ALLOW:			- INTEGRATED INTERNAL PERMEABLE PAVING CIRCULATION PATHS.			
- FLEXIBLE LEARNING			- HARDWOOD TIMBER RAISED PLANTERS			
- 1 ON 1, SMALL GROUP, WHOLE OF CLASS LEARNING			- HOSE TAPE (IRRIGATION POINT)			
3 EXTERNAL ACTIVE PLAY AND PERFORMANCE SPACE CONNECTED TO NEW PERFORMING ART BUILDING WITH OPPORTUNITIES TO:			- HARDWOOD PREPARATION TABLE			
- EXPLORE AND REFLECT LOCAL STORIES IN THE FORM OF COLOUR AND GRAPHICS			7 YARNING CIRCLE SURROUNDED BY NATIVE GRASSES AND SEDGES SUITABLE FOR THE TEACHING AND LEARNING OF TRADITIONAL WEAVING PRACTICES.			
			8 YARNING CIRCLE FOR SMALL TO MEDIUM SIZE GROUPS.			
			9 CONCRETE PLANKS (STEPPING STONES) WITH INCORPORATED INTERPRETATION PANELS THAT PROVIDE INFORMATION ON PLANT AND ANIMAL SPECIES OF THE CUMBERLAND PLAIN WOODLAND.			

Key Plan:

Drawing Disclaimer:

Do not scale from drawings.

Verify all dimensions on site before commencing work.

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Note

PTW takes no responsibility for external building elements. Anything connected with any design, materials selection, construction or installation of any cladding, facade or external building element must be checked by and remains the responsibility of others, including suitably qualified experts as may be required.

Rev	Amendment	By	Chk**	Date
A	DRAFT SSDA SUBMISSION	GM	GM	21/10/01
B	DEVELOPED DRAFT SSDA SUBMISSION	GM	GM	21/10/05
C	DEVELOPED DRAWINGS	GM	GM	21/10/07
D	DRAFT SSDA SUBMISSION	GM	GM	21/10/26
E	DRAFT SSDA SUBMISSION	GM	GM	21/10/30
F	SSDA SUBMISSION	GM	GM	21/11/10

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PTW

1:500 @ A1

Project

GLENWOOD HIGH SCHOOL

FORMAN AVENUE, GLENWOOD, NSW 2768

Status

DRAFT SSDA SUBMISSION

Title

LANDSCAPE PLAN

Drawing Number

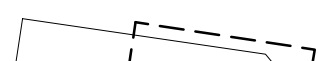
DA-LA-0001

Revision

F

The site plan for Glenwood Reserve illustrates a proposed development within a natural setting. The central feature is a large, rectangular building footprint with a grid-like internal structure, situated on a raised platform. To the left of the building is a large area of existing Cumberland Plain Woodland, characterized by numerous tree symbols (circles with dots) and labels such as T104, T107, T108, T109, T110, T111, T112, T113, T114, T115, T116, T117, T118, T120, T121, T122, T123, T124, T125, T126, T127, T128, T129, T130, T131, T132, T133, T134, T135, T136, T137, T138, T139, T140, T141, T142, T143, T144, T145, T146, T147, T148, T149, T150, T151, T152, T153, T154, T155, T156, T157, T158, T159, T160, T161, T162, T163, T164, T165, T166, T167, T168, T169, T170, T171, T172, T173, T174, T175, T176, T177, T178, T179, T180, T181, T182, T183, T184, T185, T186, T187, T188, T189, T190, T191, T192, T193, T194, T195, T196, T197, T198, T199, T200, T201, T202, T203, T204, T205, T206, T207, T208, T209, T210, T211, T212, T213, T214, T215, T216, T217, T218, T219, T220, T221, T222, T223, T224, T225, T226, T227, T228, T229, T230, T231, T232, T233, T234, T235, T236, T237, T238, T239, T240, T241, T242, T243, T244, T245, T246, T247, T248, T249, T250, T251, T252, T253, T254, T255, T256, T257, T258, T259, T260, T261, T262, T263, T264, T265, T266, T267, T268, T269, T270, T271, T272, T273, T274, T275, T276, T277, T278, T279, T280, T281, T282, T283, T284, T285, T286, T287, T288, T289, T290, T291, T292, T293, T294, T295, T296, T297, T298, T299, T300, T301, T302, T303, T304, T305, T306, T307, T308, T309, T310, T311, T312, T313, T314, T315, T316, T317, T318, T319, T320, T321, T322, T323, T324, T325, T326, T327, T328, T329, T330, T331, T332, T333, T334, T335, T336, T337, T338, T339, T340, T341, T342, T343, T344, T345, T346, T347, T348, T349, T350, T351, T352, T353, T354, T355, T356, T357, T358, T359, T360, T361, T362, T363, T364, T365, T366, T367, T368, T369, T370, T371, T372, T373, T374, T375, T376, T377, T378, T379, T380, T381, T382, T383, T384, T385, T386, T387, T388, T389, T390, T391, T392, T393, T394, T395, T396, T397, T398, T399, T400, T401, T402, T403, T404, T405, T406, T407, T408, T409, T410, T411, T412, T413, T414, T415, T416, T417, T418, T419, T420, T421, T422, T423, T424, T425, T426, T427, T428, T429, T430, T431, T432, T433, T434, T435, T436, T437, T438, T439, T440, T441, T442, T443, T444, T445, T446, T447, T448, T449, T450, T451, T452, T453, T454, T455, T456, T457, T458, T459, T460, T461, T462, T463, T464, T465, T466, T467, T468, T469, T470, T471, T472, T473, T474, T475, T476, T477, T478, T479, T480, T481, T482, T483, T484, T485, T486, T487, T488, T489, T490, T491, T492, T493, T494, T495, T496, T497, T498, T499, T500, T501, T502, T503, T504, T505, T506, T507, T508, T509, T510, T511, T512, T513, T514, T515, T516, T517, T518, T519, T520, T521, T522, T523, T524, T525, T526, T527, T528, T529, T530, T531, T532, T533, T534, T535, T536, T537, T538, T539, T540, T541, T542, T543, T544, T545, T546, T547, T548, T549, T550, T551, T552, T553, T554, T555, T556, T557, T558, T559, T560, T561, T562, T563, T564, T565, T566, T567, T568, T569, T570, T571, T572, T573, T574, T575, T576, T577, T578, T579, T580, T581, T582, T583, T584, T585, T586, T587, T588, T589, T590, T591, T592, T593, T594, T595, T596, T597, T598, T599, T600, T601, T602, T603, T604, T605, T606, T607, T608, T609, T610, T611, T612, T613, T614, T615, T616, T617, T618, T619, T620, T621, T622, T623, T624, T625, T626, T627, T628, T629, T630, T631, T632, T633, T634, T635, T636, T637, T638, T639, T640, T641, T642, T643, T644, T645, T646, T647, T648, T649, T650, T651, T652, T653, T654, T655, T656, T657, T658, T659, T660, T661, T662, T663, T664, T665, T666, T667, T668, T669, T670, T671, T672, T673, T674, T675, T676, T677, T678, T679, T680, T681, T682, T683, T684, T685, T686, T687, T688, T689, T690, T691, T692, T693, T694, T695, T696, T697, T698, T699, T700, T701, T702, T703, T704, T705, T706, T707, T708, T709, T710, T711, T712, T713, T714, T715, T716, T717, T718, T719, T720, T721, T722, T723, T724, T725, T726, T727, T728, T729, T730, T731, T732, T733, T734, T735, T736, T737, T738, T739, T740, T741, T742, T743, T744, T745, T746, T747, T748, T749, T750, T751, T752, T753, T754, T755, T756, T757, T758, T759, T760, T761, T762, T763, T764, T765, T766, T767, T768, T769, T770, T771, T772, T773, T774, T775, T776, T777, T778, T779, T780, T781, T782, T783, T784, T785, T786, T787, T788, T789, T790, T791, T792, T793, T794, T795, T796, T797, T798, T799, T800, T801, T802, T803, T804, T805, T806, T807, T808, T809, T810, T811, T812, T813, T814, T815, T816, T817, T818, T819, T820, T821, T822, T823, T824, T825, T826, T827, T828, T829, T830, T831, T832, T833, T834, T835, T836, T837, T838, T839, T840, T841, T842, T843, T844, T845, T846, T847, T848, T849, T850, T851, T852, T853, T854, T855, T856, T857, T858, T859, T860, T861, T862, T863, T864, T865, T866, T867, T868, T869, T870, T871, T872, T873, T874, T875, T876, T877, T878, T879, T880, T881, T882, T883, T884, T885, T886, T887, T888, T889, T890, T891, T892, T893, T894, T895, T896, T897, T898, T899, T900, T901, T902, T903, T904, T905, T906, T

Key Plan:



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Note
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Rev	Amendment	By	Chk*	Date
A	DRAFT SSDA SUBMISSION	GM	GM	21/10/01
B	DEVELOPED DRAFT SSDA SUBMISSION	GM	GM	21/10/05
C	DEVELOPED DRAWINGS	GM	GM	21/10/07
D	DRAFT SSDA SUBMISSION	GM	GM	21/10/30
E	SSDA SUBMISSION	GM	GM	21/11/10

[illegible]

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Project

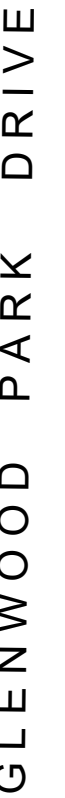
GLENWOOD HIGH SCHOOL

FORMAN AVENUE, GLENWOOD,
NSW 2768

Status

DEVELOPED DRAFT SSDA SUBMISSION

Title	
DETAIL LANDSCAPE PLAN SHEET 1	
Drawing Number	Revision
DA-LA-0002	E



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*Registered Architect		
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**Registered Landscape Architect		
GM	Glenn McIntosh	AILA

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3

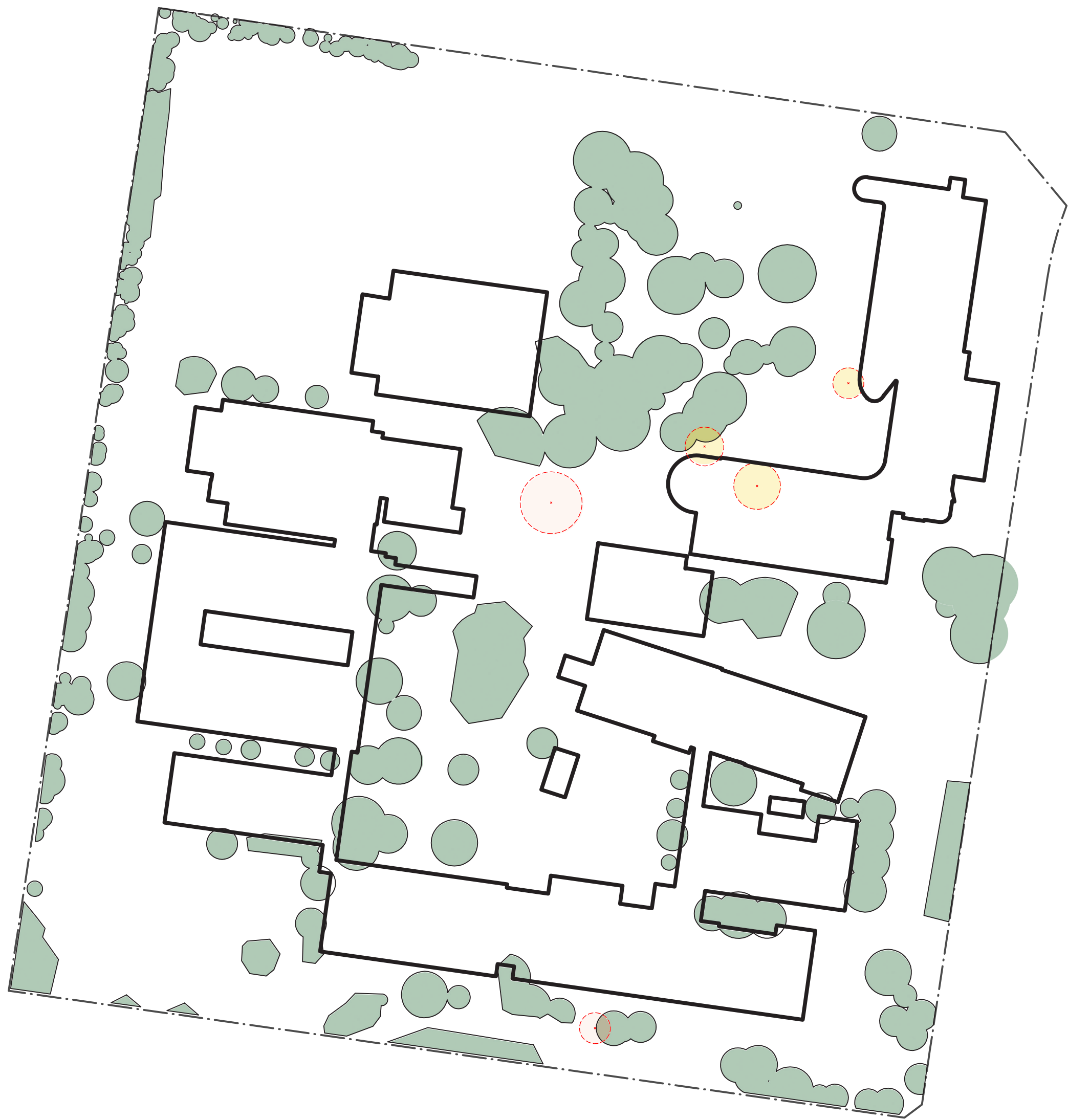
Project
GLENWOOD HIGH SCHOOL
FORMAN AVENUE, GLENWOOD,
NSW 2768

Drawing Number

DA-LA-00003

Revision

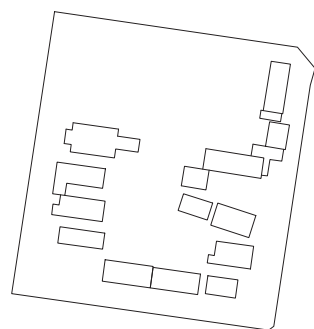
E



- LEGEND**
- SCHOOL BUILDINGS
 - EXISTING TREE TO BE RETAINED
 - EXISTING TREE TO BE REMOVED FOR DA.
 - EXISTING TREE TO BE REMOVED FOR SSD.
 - NEW TREE PLANTING

CANOPY AREA CALCULATIONS			
SITE AREA: 60.790m ²	EX. TREE CANOPY AREA: 10.890m ² (17.6%)		
BUILDING AREA: 16.915m ²	AUGMENTED TREE CANOPY AREA: 14.855m ²		
		SITE AREA: 60.790m ²	TREE CANOPY: 14.855m ² (24.1%)

Key Plan:



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Rev	Amendment	By	Chk**	Date
A	DRAFT SSDA SUBMISSION	GM	GM	21/10/01
B	DEVELOPED DRAFT SSDA SUBMISSION	GM	GM	21/10/05
C	DRAFT SSDA SUBMISSION	GM	GM	21/10/25
D	DRAFT SSDA SUBMISSION	GM	GM	21/10/30
E	SSDA SUBMISSION	GM	GM	21/11/10

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NSW Nominated Architects
S Parsons Architect No. 6098
D Jones Architect No. 4778

PTW

1:1000 @ A1

Project
GLENWOOD HIGH SCHOOL
FORMAN AVENUE, GLENWOOD,
NSW 2768

Status
DEVELOPED DRAFT SSDA SUBMISSION

Title
TREE CANOPY COVER

Drawing Number
DA-LA-0010

Revision
E



BENCH SEATING
Proprietary Glass Reinforced Concrete (GRC) Bench
Seating Elements with sections of Hardwood Timber to
outdoor learning spaces.



INTERPRETATION WALKWAY
Concrete planks (Stepping Stones) in turf with
interpretation panels located adjacent to the existing
Cumberland Plain Woodland patch. Interpretation panels
describe plant and animal species of the Cumberland Pain
Woodland community.



EXTERNAL ACTIVE PLAY AND PERFORMANCE SPACE
Coloured concrete to active play and performance spaces



KITCHEN GARDEN
Provide a mix of native edible plant growing lots and
raised hardwood timber planter beds.

A1



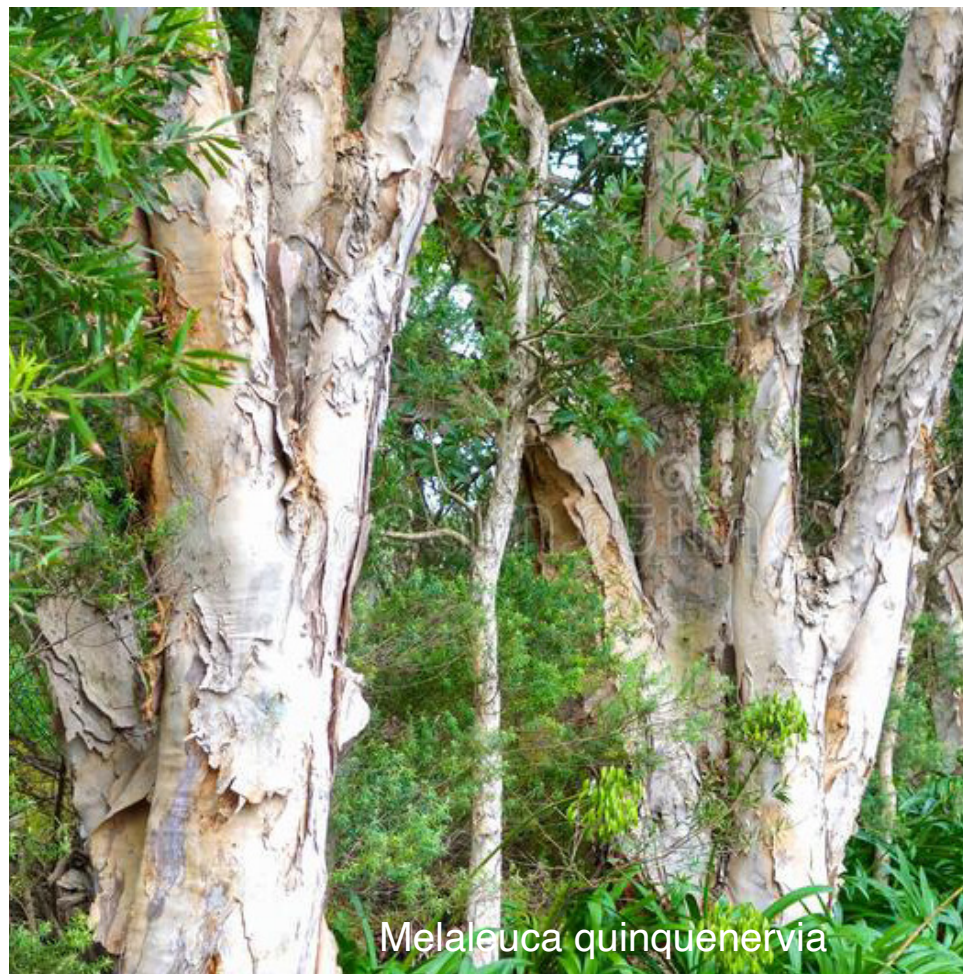
Cumberland Plain Woodland



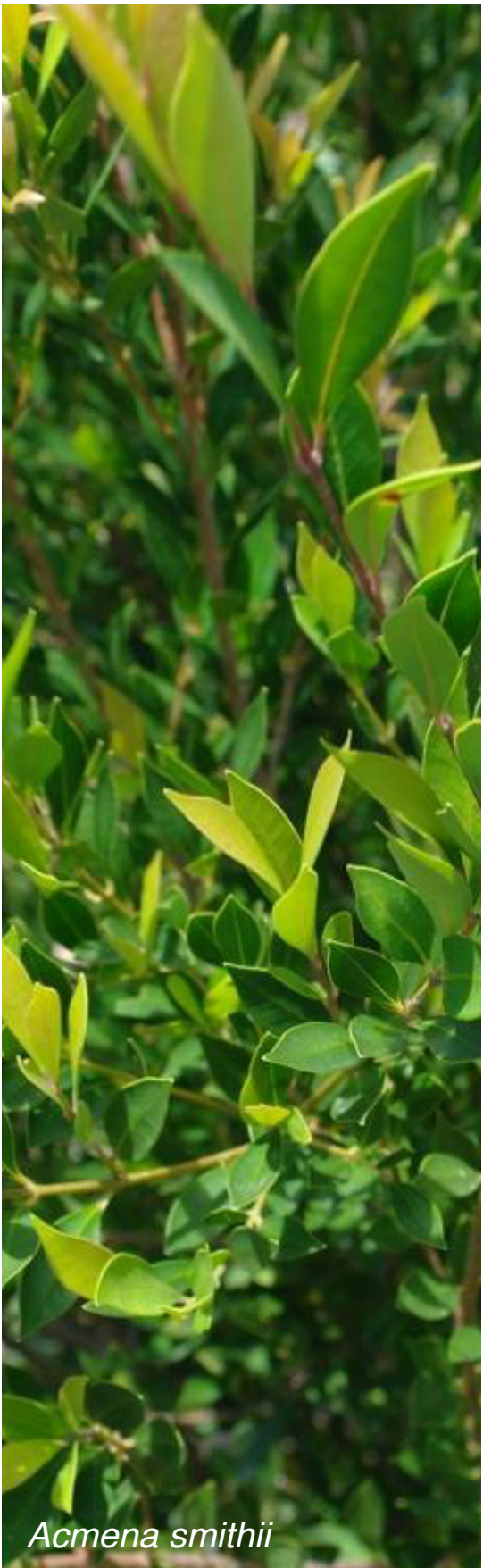
Lophostemon confertus



Flindersia australis



Melaleuca quinquenervia



Acmena smithii



Themeda australis



Juncus usitatus



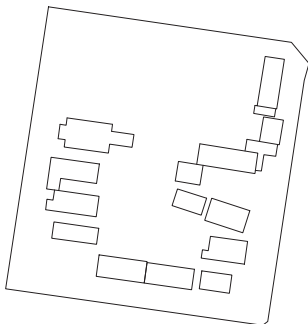
Dianella revoluta

CUMBERLAND PLAIN WOODLAND PLANTING SPECIES

Potential opportunity for future rehabilitation of Cumberland Plain Woodland on site.
The existing Cumberland Plain Woodland has informed the tree and groundcover species selection for the surrounding school landscape and interpretation opportunities.

Investigate suitable tree and groundcover planting and native seed mix, including planting (seeding) management and techniques with Greening Australia, Cumberland Seed Production Area (SPA): <https://www.greeningaustralia.org>.

Key Plan:



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Rev	Amendment	By	Chk**	Date
A	DRAFT SSDA SUBMISSION	GM	GM	21/10/01
B	DEVELOPED DRAFT SSDA SUBMISSION	GM	GM	21/10/05
C	DRAFT SSDA SUBMISSION	GM	GM	21/10/30
D	SSDA SUBMISSION	GM	GM	21/11/10

*Registered Architect		
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Project
GLENWOOD HIGH SCHOOL
FORMAN AVENUE, GLENWOOD,
NSW 2768

Status
DRAFT SSDA SUBMISSION

Title
LANDSCAPE PLANTING

Drawing Number
DA-LA-0021

Revision
D