



Pleasure Point Subdivision

Vegetation Management Plan

Acknowledgement of Country:

Restore Environmental Consultants acknowledge the Traditional Custodians of the land on which we work and live. We extend our respect to Aboriginal and Torres Strait Islanders people for their enduring connection to Country.

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Disclaimer:

Mapping in this report is indicative. The location of important features should be confirmed by a registered surveyor.

Contents

Contents	ii
List of Figures	iv
List of Tables	iv
Abbreviations	v
1. Introduction	1
1.1. Proposal overview	1
1.2. VMP objectives	2
2. Planning framework	3
2.1. Pre-DA advice	3
2.2. Development Control Plan	3
2.3. Controlled activities	4
2.3.1. Guidelines	4
2.3.2. Application of the guidelines	6
2.4. SEPP (Resilience and Hazards) 2021	7
2.5. Fisheries Management Act 1994	7
2.6. Other guidelines	7
2.7. Biodiversity Development Assessment Report	8
3. Site description	9
3.1. Drainage and soils	9
3.2. Ecology	12
3.3. Bush fire management	15
4. Management framework	16
4.1. Management zones and objectives	16
4.2. Responsibilities	18
4.2.1. The landowner	18
4.2.2. Implementation of on-ground works	18
4.2.3. Site ecologist	18
4.3. Summary of actions, performance criteria and costs	19
5. Description of VMP actions	22
5.1. Monitoring, evaluation and reporting	22
5.2. Temporary fencing and signage	23
5.3. Earthworks and erosion control	23

5.4. Reuse removed native timber	23
5.5. Weed treatment	23
5.5.1. Methods	24
5.5.2. Biosecurity hygiene.....	25
5.6. Regeneration/revegetation	25
5.6.1. Seed collection and plant supply	25
5.6.2. Seed application	25
5.6.3. Planting.....	26
5.6.4. Fertilising	28
5.6.5. Watering	28
5.6.6. Plant protection	28
5.7. Install permanent signage	29
5.8. Community awareness	29
References	30
Appendix B Landscape plans (Habit8 2025)	32
Appendix B Profiles of plant community types	33

List of Figures

Figure 2-1: Strahler system of stream ordering (DPE 2022).....	4
Figure 2-2: Riparian corridor averaging rule (DPE 2022)	6
Figure 2-3: SEPP (Resilience and Hazards) 2021 coastal wetlands mapping	7
Figure 3-1: Topography (Mecone 2024).....	9
Figure 3-2: Hydrolines (NSW Government 2018)	10
Figure 3-3: Soil landscapes (DCCEEW 2024).....	11
Figure 3-4: Existing vegetation communities (AEP 2024)	13
Figure 4-2: Development staging plan (ADW Johnson 2024)	19

List of Tables

Table 2-1: Recommended riparian corridor widths (DPE 2022).....	5
Table 2-2: What can be considered in the riparian corridor (DPE 2022)	5
Table 3-1: Condition and extent of existing PCTs in the VMP area (AEP 2024)	14
Table 4-1: VMP management zones	17
Table 4-2: Summary of VMP actions, performance criteria and costs.....	20
Table 5-1: Seeding requirements.....	26
Table 5-2: Planting density and tubestock quantity for revegetation areas.....	27

Abbreviations

APZ	Asset protection zone
ASS	Acid sulphate soils
BAM	Biodiversity Assessment Method
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity development assessment report
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
DA	Development application
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DPE	NSW Department of Planning and Environment
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
MZ	Management zone
NSW	New South Wales
PCT	Plant community type
TEC	Threatened ecological community
VMP	Vegetation management plan
VRZ	Vegetated riparian zone

1. Introduction

This vegetation management plan (VMP) has been prepared for Hodge Developments Pty Ltd to accompany a development application to Liverpool City Council for a concept development application and staged residential subdivision at Pleasure Point.

1.1. Proposal overview

The development site and VMP area are depicted in the landscape plans prepared by Habit8 (2025) for the proposed subdivision (Appendix A).

- **Development site** – this is the cadastre of the land on which the development footprint and VMP area occur. The development site is defined as Lot 1 DP875804 and Lot 2 DP817692 at Pleasure Point. It is bound by Pleasure Point Road and residences to the east, bushland and Heathcote Road to the south, residences to the west, the Georges River foreshore to the northeast and East Hills Railway Line to the northwest. The site features two building complexes fronting the Georges River foreshore (which are proposed to be removed), with scattered vegetation across the site. The site has an area of approximately 39 ha and is subject to three land use zones under the Liverpool Local Environmental Plan 2008:
 - The Georges River foreshore is zoned RE1 Public Recreation
 - An unnamed, second order watercourse is zoned C3 Environmental Management
 - The remainder of the development site is zoned R2 Low Density Residential
- **VMP area** – the VMP area is indicated in drawing L04 in Appendix A and is approximately 5.78 ha. It incorporates the Georges River foreshore, including foreshore land outside the cadastral boundary of the development site, and the riparian corridor that flows into the Georges River. The VMP area will be subject to vegetation management including weed control, retention of most native plants (four trees to be removed), regeneration and revegetation with native species characteristic of the local plant community types, and maintenance of mown grass areas with canopy trees to minimise bushfire hazard and increase recreational amenity. Infrastructure in the VMP area will include:
 - Existing and proposed pedestrian/bike paths
 - Retention of the jetty and canoe ramp
 - Construction of a culvert crossing
 - Installation of four stormwater detention and treatment basins
 - Construction of tiered sandstone blockwork walls
 - Construction of a swale/channel outlet to terminate just prior to the boundary of the foreshore with a pit over the existing 600 mm diameter pipe that currently captures and conveys a portion of the overland flows

- Provision of a rock lined batter to address potential scour issues in large flood events

1.2. VMP objectives

This VMP has been prepared as a companion document to the Landscape Plan (Habit8 2025) (Appendix A) and Stream and Riparian Management Plan (ADW Johnson 2024). The VMP:

- Provides the framework for protection and enhancement of riparian ecosystem health within the development site, while addressing bushfire management requirements (BCBHS 2024).
- Describes baseline conditions for the VMP area consistent with investigations undertaken for the Biodiversity Development Assessment Report (BDAR) by AEP (2024).
- Nominates management zones, objectives and actions responding to the baseline conditions in the VMP area.
- Nominates performance criteria against which the effectiveness of implementation of VMP tasks can be determined.
- Identifies responsibilities for VMP area management and compliance reviews.
- Provides a costed program for implementation of revegetation, weed control and other measures in the VMP area, including monitoring and reporting.

The VMP area will be managed for five years in accordance with this VMP prior to dedication to Council in accordance with a Voluntary Planning Agreement (VPA).

2. Planning framework

Statutory and policy matters relevant to the VMP are discussed in this section.

2.1. Pre-DA advice

Liverpool City Council's pre-DA advice (reference PL-65/2023; 18 October 2023) includes the following requirements:

- 'A vegetation management plan is required if adverse impacts are likely to be caused to bushland to be retained.
- DPE may require a vegetation management plan for controlled activities.'

2.2. Development Control Plan

Part 1 of Liverpool City Council's Development Control Plan 2008 provides general controls for all development in the local government area, including:

'Where a proposal is likely to adversely impact on bushland, a Vegetation Management Plan (VMP) for the conservation of the bushland shall be submitted. The VMP shall be undertaken in accordance with pertinent NSW Office of Water Guidelines.

Any imported soils and/or mulches used shall be purchased from an appropriate supplier and be free of contaminants, seeds, propagules of weeds and undesirable species. Mulch shall not be used on flood liable land and/or areas where it is likely to be washed away.

Any proposed re-vegetation shall:

- Augment remaining bushland.
- Consist predominately of species which occur naturally on the site or are of local provenance.
- Reflect the structure of natural bushland.
- Be undertaken in accordance with a vegetation management plan which forms part of the consent.

Any proposed re-vegetation, seed collection and weed removal to be undertaken as part of the implementation of the approved vegetation management plan shall be undertaken by an appropriately qualified and licensed bushland restoration contractor.'

Part 2.13 of Liverpool City Council's Development Control Plan 2008 (Land Subdivision in Pleasure Point 19 February 2014) sets the objectives and planning controls for the public domain at Pleasure Point. General objectives include:

- 'Ensuring a high standard of water and air pollution management and water quality.
- Maintaining and enhancing the quality of the natural environment.
- Connecting and enhancing vegetation corridors and providing links between the Georges River and Holsworthy.'

2.3. Controlled activities

2.3.1. Guidelines

Controlled activity approval by the NSW Government may be required for development on waterfront land. The *Water Management Act 2000* defines waterfront land as including the bed of rivers, lakes, or estuaries, and all land within 40 m of the highest bank of the river, lake or estuary. If a controlled activity approval is required for the proposed development at Pleasure Point, this will be indicated in Council's general terms of approval for the subdivision DA and a VMP would need to be submitted with a controlled activity approval application prior to on-ground works. The VMP would be required to address the Guidelines for riparian corridors on waterfront land (NSW Department of Planning and Environment (DPE) 2022).

The NSW Government uses 1:25,000 topographic maps and the Strahler System to order or classify watercourses, as illustrated in Figure 2-1. Table 2-1 identifies recommended riparian corridor widths for each Strahler stream order.

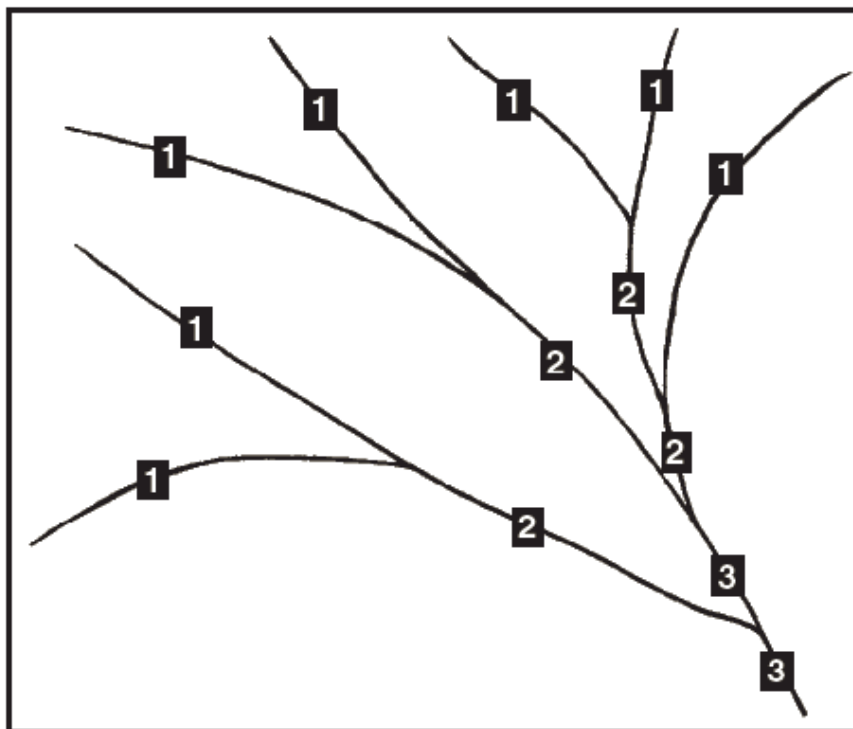


Figure 2-1: Strahler system of stream ordering (DPE 2022)

Table 2-1: Recommended riparian corridor widths (DPE 2022)

Watercourse type	VRZ width (each side of watercourse)	Total riparian corridor width
1 st order	10 m	20 m + channel width
2 nd order	20 m	40 m + channel width
3 rd order	30 m	60 m + channel width
4 th order and greater	40 m	80 m + channel width

Works and activities that can occur in riparian corridors are indicated in Table 2-2, subject to the following general objectives from the Guidelines (DPE 2022) and other statutory requirements:

- Minimise disturbance and harm to the recommended riparian corridor.
- Maintain or rehabilitate a riparian corridor with fully structured native vegetation.
- Minimise the number of creek crossings and provide perimeter road separating development from the riparian corridor.
- Locate services and infrastructure outside of the riparian corridor. Within the riparian corridor provide multiple service easements and/or utilise road crossings where possible.
- Treat stormwater run-off before discharging into the riparian corridor.

Table 2-2: What can be considered in the riparian corridor (DPE 2022)

Item	1 st order	2 nd order	3 rd order	4 th order
Vegetated riparian zone (VRZ)	10 m	20 m	30 m	40 m
Riparian corridor offset for non-riparian uses	✓	✓	✓	✓
Cycleways & paths (<4 m wide) within 50% outer VRZ	✓	✓	✓	✓
Detention basins - within 50% outer VRZ	✓	✓	✓	✓
Detention basins - online	✓	✓	x	x
Stormwater outlet structures & essential services	✓	✓	✓	✓
Stream realignment	✓	x	x	x
Road crossings - any	✓	✓	x	x
Road crossings - culvert	x	x	✓	✓
Road crossings – bridge	x	x	✓	✓

The Guidelines (DPE 2022) allow some flexibility through application of the averaging rule (Figure 2-2) to cleared waterfront land. Non-riparian corridor works and activities within the outer riparian corridor may be approved if the average width of the vegetated riparian zone (VRZ) can be achieved over the length of the watercourse within the development site. Where appropriate, 50% of the outer VRZ width may be used for non-riparian uses including asset protection zones, recreational areas, roads, development lots, basins and infrastructure. However, an equivalent area connected to the riparian corridor should be offset on the site and the inner 50% of the VRZ should be fully protected and vegetated with native, endemic, riparian plant species.

Bridges, cycleways, paths, stormwater outlets and other essential services do not need to be offset but should comply with the requirements set out in the riparian corridor matrix (Table 2-2) and other relevant controlled activities guidelines. Offline detention basins do not need to be offset so long as there is an equivalent VRZ for the corresponding watercourse and they are built in compliance with Controlled activities: Guidelines for watercourse crossings and Controlled activities: Guidelines for instream works.

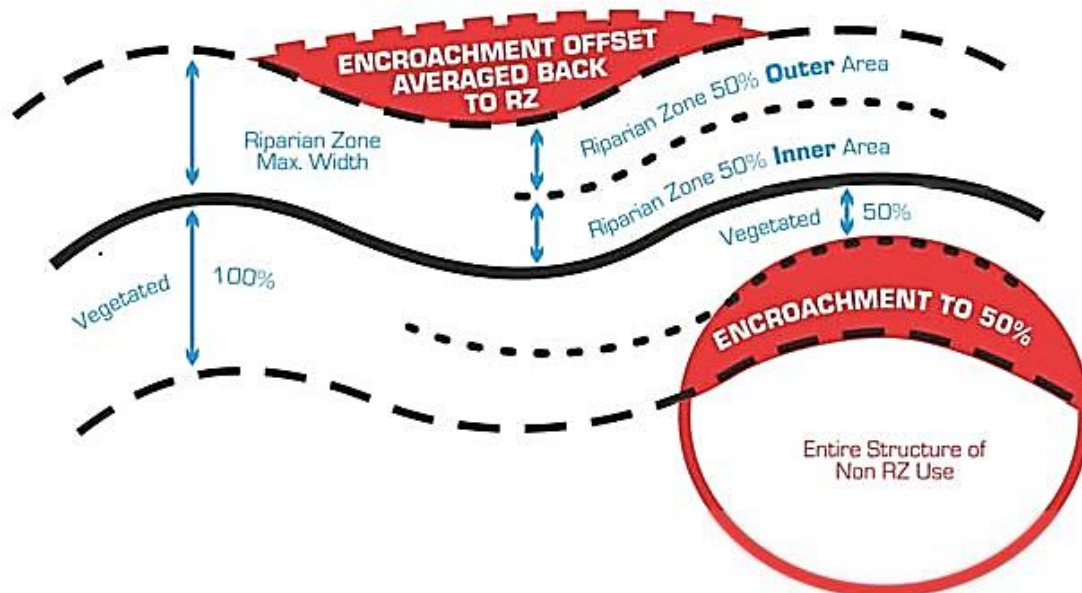


Figure 2-2: Riparian corridor averaging rule (DPE 2022)

2.3.2. Application of the guidelines

The Stream and Riparian Management Plan (ADW Johnson 2024) maps the top of bank based on topographic survey within the Pleasure Point development site. The inner and outer riparian buffers measured from top of bank according to DPE (2022) Guidelines are 20 m from the 2nd order unnamed watercourse and 40 m from the Georges River. All roads and housing lots will be outside the riparian buffer zones. There may be minor encroachment of the outer VRZ by stormwater basins, but this will be offset within the VMP area, contiguous with VRZs.

2.4. SEPP (Resilience and Hazards) 2021

Figure 2-3 shows the extent of the Georges River foreshore affected by a 100 m buffer to mapped pockets of Coastal Wetlands (saltmarsh and mangrove vegetation). This mapped buffer is referred to as the Proximity Area for Coastal Wetlands under the State Environmental Planning Policy (SEPP) (Resilience and Hazards) 2021.

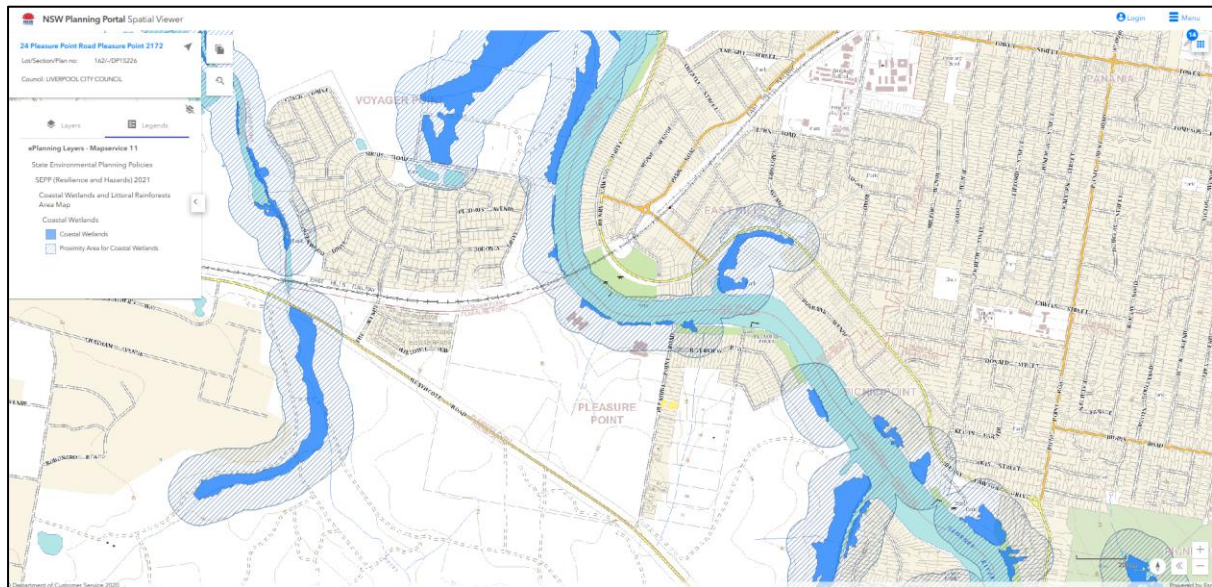


Figure 2-3: SEPP (Resilience and Hazards) 2021 coastal wetlands mapping

2.5. Fisheries Management Act 1994

The Georges River has been mapped by the NSW Government as Key Fish Habitat. An objective of the NSW *Fisheries Management Act 1994* is to 'conserve key fish habitats.' Implementation of this VMP will improve the foreshore and riparian habitat of part of the Georges River.

2.6. Other guidelines

Further to the matters discussed above, this VMP considers the following guidelines and standards:

- Liverpool City Council's Tree Management Technical Guidelines (Draft for Public Exhibition, June 2024)
- Liverpool City Council's Tree Policy
- Liverpool City Council's Tree Management Strategy
- Standards Australia, 2007, AS 4373-2007 Pruning of amenity trees
- Standards Australia, 2009, AS 4970-2009 Protection of Trees on Development Sites
- Standards Australia, 2007, AS 4687-2007 Temporary fencing and hoardings

- Standards Australia, 2018, AS4419-2018 Soils for landscaping and garden use
- Standards Australia, 2012, AS4454-2012 Compost, soil conditioners and mulches
- Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland (DPE 2005)

2.7. Biodiversity Development Assessment Report

The Biodiversity Development Assessment Report (BDAR) (Anderson Environment & Planning (AEP) 2024) states:

‘The management of vegetation through the VMP will enhance the overall quality of the vegetation within the site, contributing to the improved condition of ground-truthed vegetation communities and subsequently the conservation of Threatened Ecological Communities and their associated Threatened Species assemblages. Enhancing the ecological health of the VMP area will also strengthen regional ecological connectivity between the Georges River and bushland to the south.’

The BDAR identifies measures to mitigate impacts associated with construction and ongoing operation, including:

- Offsetting loss of hollow bearing trees from the development area by installing nest boxes and Hollow Hog habitat features at a replacement ratio of 2:1 in the VMP area. A nest box management plan will be prepared with specifications consistent with those recommended in the BDAR.
- All cleared vegetation is to be mulched on site and spread to help stabilise any exposed soil and minimise offsite movement of biomass. Fallen timber and hollow logs identified to be retained to be relocated into the retained lands.
- Live mulch and topsoil of local provenance is an ideal resource to assist rehabilitation of conservation lands.
- Plantings will be incorporated in the landscape design of the proposed development site to provide future resources for native fauna in the area.
- Installation of a fauna-protecting fence, including relevant signage, to create a fauna protection zone.
- Best practice erosion and sedimentation control methods to be adopted, enforced and maintained throughout vegetation works, to avoid any movement of sediment resulting from clearing and construction into the retained vegetation lands.

The BDAR identifies staged ecosystem and species credit obligations, unrelated to the implementation of the VMP.

3. Site description

3.1. Drainage and soils

The development site generally slopes down from Heathcote Road northward to the Georges River, with increasing steepness and rock outcrops along the drainage corridor through the centre of the site (Figure 3-1). The highest point of the site is approximately RL 40 m near the junction of Heathcote Road and Pleasure Point Road. The vegetated bank of the Georges River is generally flat at about RL 1 m. There are no dams within the site.

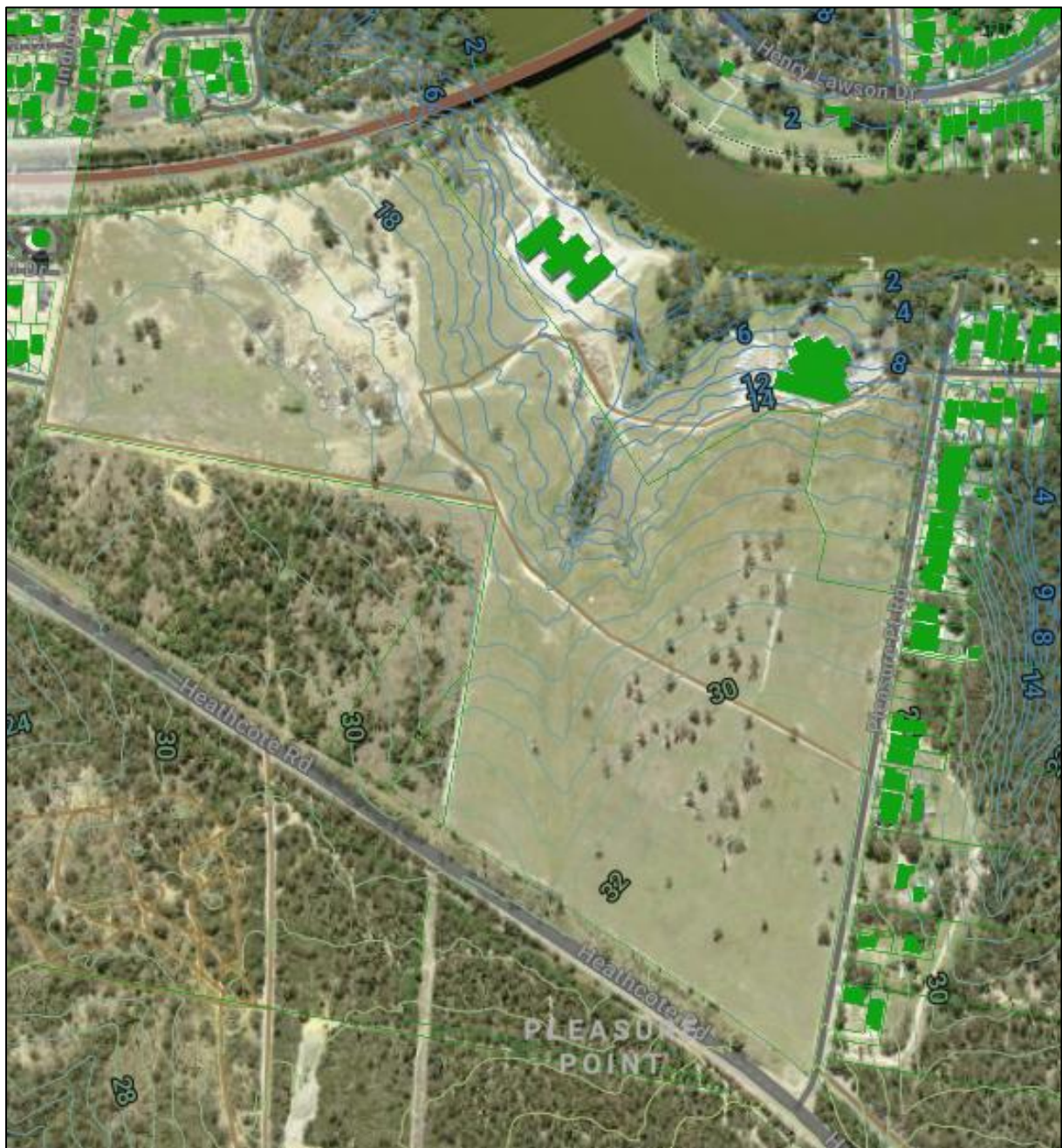


Figure 3-1: Topography (Mecone 2024)

The Stream and Riparian Management Plan (ADW Johnson 2024) determined that the two mapped first order watercourses mapped by the NSW Government (Figure 3-2) 'do not meet the definition of a watercourse under the *Water Management Act 2000* and instead, function as drainage lines with no riparian vegetation within or around them and no defined bed or banks'. ADW Johnson (2024) concluded that the mapped second order watercourse functions as a watercourse and should be retained/enhanced.

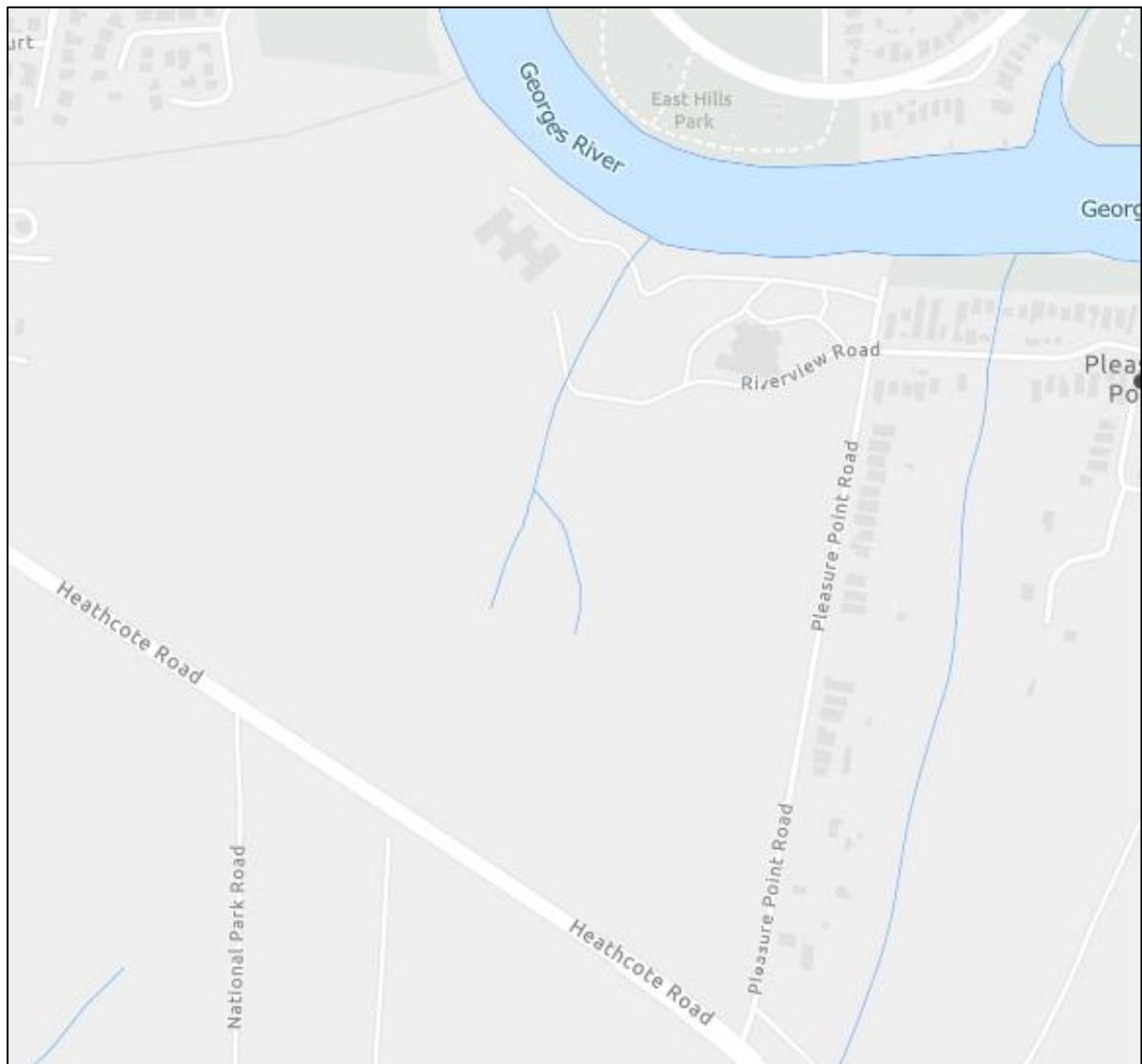


Figure 3-2: Hydrolines (NSW Government 2018)

The lower reaches of the development site are subject to inundation during flood events up to the 1% AEP associated with the Georges River, however, this is typically constrained within the C3 and RE1 land zones. No other areas of the site are subject to flooding. (ADW Johnson 2024)

The site is characterised by two soil landscapes, as mapped by DCCEE (2024) in Figure 3-3. Typical features of these soil landscapes are:

- Gynea soil landscape (9030gy)

- Undulating to rolling rises and low hills on Hawkesbury Sandstone. Local relief 20–80 m, slopes 10–25%. Rock outcrop <25%. Broad convex crests, moderately inclined side slopes with wide benches, localised rock outcrop on low broken scarps. Extensively cleared open forest (dry sclerophyll forest) and eucalypt woodland.
- Steep slopes, water erosion hazard, rock outcrop, localised rockfall hazard, localised non-cohesive soils, shallow highly permeable soil, very low soil fertility.
- Severe sheet erosion occurs following bushfires which destroy or damage stabilising vegetative cover. Minor gully erosion occurs along unpaved or poorly maintained roads and fire trails especially those frequented by four-wheel-drive vehicles and trail bikes.
- Low to moderate capability for urban development.
- Lucas Heights Residual soil landscape (9030lh)
 - Gently undulating crests and ridges on plateau surfaces of the Mittagong formation (alternating bands of shale and fine-grained sandstones). Local relief to 30 m, slopes <10%. Rock outcrop is absent. Extensively or completely cleared, dry sclerophyll low forest and woodland.
 - Erosion on this unit is generally low. Minor gully and sheet erosion occurs occasionally along unpaved roads.
 - High capability for urban development.

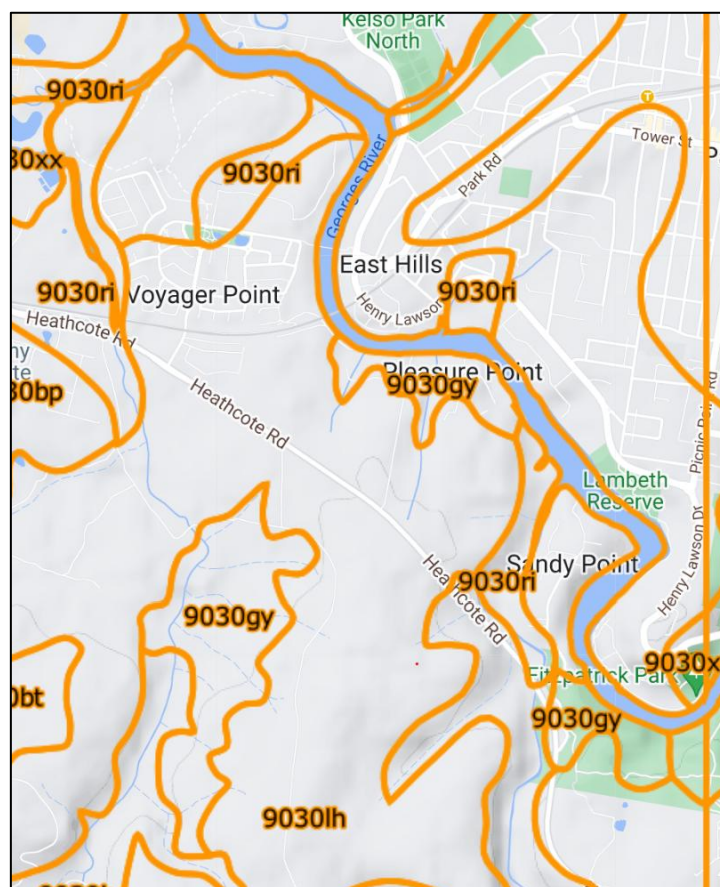


Figure 3-3: Soil landscapes (DCCEW 2024)

NSW Government mapping indicates there is a risk of Class 4 acid sulphate soils (ASS) occurring in the VMP area, primarily along the Georges River foreshore and lower reach of the watercourse where they are likely to be found deeper than 2 m below the natural ground surface. Potential acid sulphate soils are submerged or buried in their natural state, but become oxidised when exposed or drained, and produce sulphuric acid which can be harmful to ecosystems.

The Geotechnical Investigation produced by Green Geotechnics in April 2024 included assessment of soils in this area. The investigation noted that the property is at an elevation of between RL1 and RL40 AHD, and, based on the boreholes drilled close to the Georges River (BH12 and BH14) sandstone bedrock and/or colluvial soils are present at depths of less than 1.0 m. This is not consistent with the geological criteria necessary for the presence of ASS. The report concluded: "Based on our onsite observations and the subsurface conditions exposed in the boreholes, it is our opinion that the proposed development will not intercept any ASS and construction will not result in the lowering of any groundwater that may be present in the area. Our assessment is the proposed construction will not require the preparation of an Acid Sulfate Soil Management Plan."

3.2. Ecology

Most of the development site has been cleared and comprises grass with scattered native and exotic trees and stockpiles of soil and landscaping materials. There are small rock outcrops along the unnamed watercourse and some northern parts of the site, and a narrow strip of estuarine vegetation along the Georges River foreshore.

AEP (2024) recorded one hollow-bearing tree within the VMP area and other hollow bearing trees within the remainder of the development site. No large or extra-large hollows were identified that may be suitable habitat for forest owls and other hollow-dependent threatened species.

AEP validated the types and condition of vegetation communities within the development site (Figure 3-4). There were three plant community types (PCTs) in the VMP area:

- PCT 4024: Cumberland Blue Box Riverflat Forest
- PCT 4028: Estuarine Swamp Oak Twig-rush Forest
- PCT 4059: Sydney Hinterland Sandy Creekflat Shrub Forest

Characteristics and associated species that define these PCTs are provided in Appendix B based on Bionet records.

AEP (2024) determined that PCT 4024 within the site is associated with the following listed threatened ecological communities:

- NSW *Biodiversity Conservation Act 2016* (BC Act) listed endangered ecological community (EEC): River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

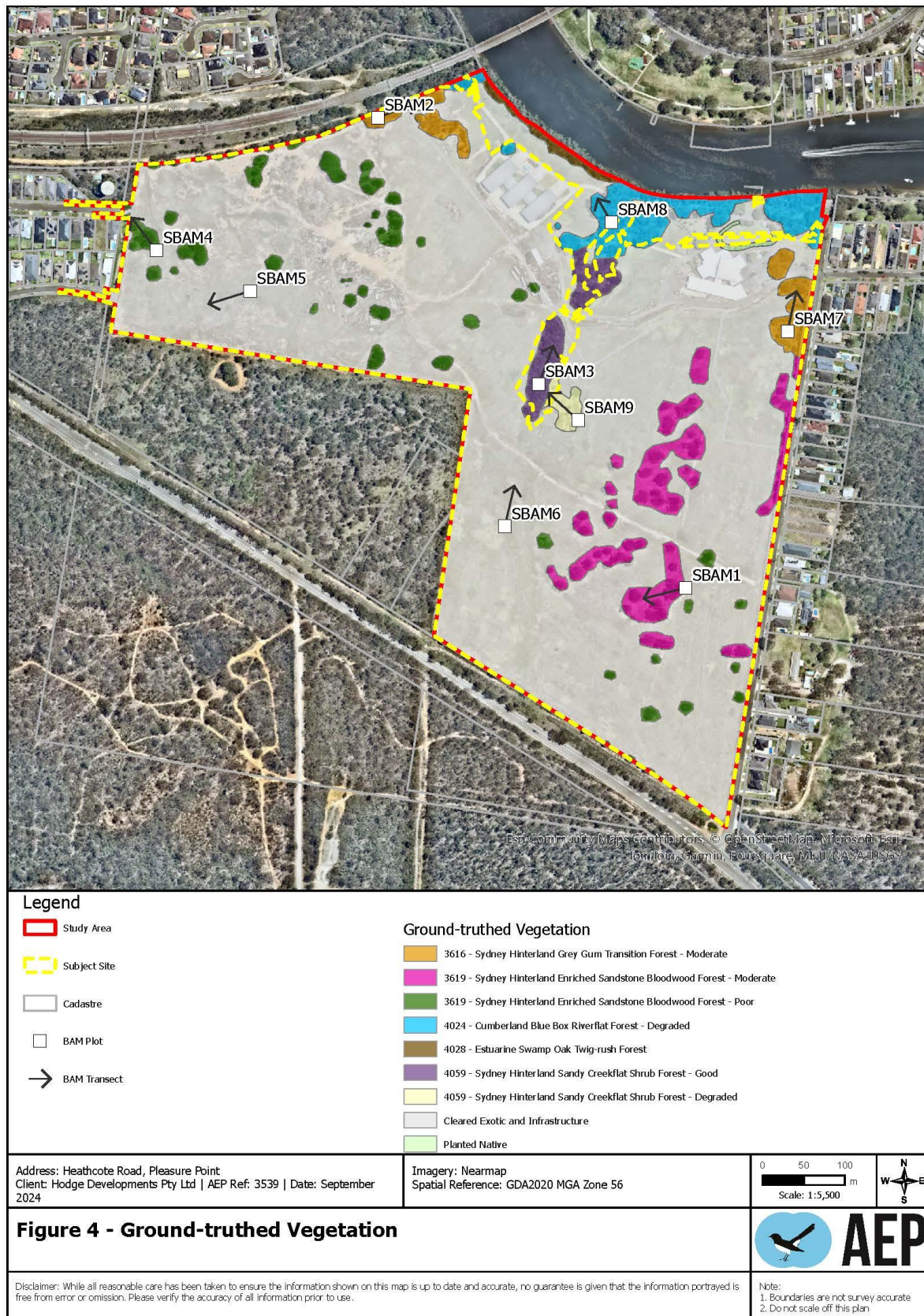


Figure 3-4: Existing vegetation communities (AEP 2024)

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed critically endangered ecological community (CEEC): River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria

PCT 4028 is associated with the following listed threatened ecological communities:

- BC Act listed EEC: Swamp Oak Floodplain Forest in the NSW North Coast, Sydney Basin and South East Corner bioregions
- EPBC Act listed EEC: Coastal Swamp Oak (*Casuarina glauca*) Forest of NSW and South East Queensland

About a third of the VMP area comprises native vegetation. The condition and extent of PCTs recorded in the VMP area by AEP are tabulated below.

Table 3-1: Condition and extent of existing PCTs in the VMP area (AEP 2024)

Existing vegetation	Condition	Extent (ha)
PCT 4059: Sydney Hinterland Sandy Creekflat Shrub Forest	Good	0.63
	Poor	0.17
PCT 4028: Estuarine Swamp Oak Twig-rush Forest	Good	0.02
PCT4024: Cumberland Blue Box Riverflat Forest	Degraded	0.66
<i>Total existing native vegetation* in the VMP area</i>		1.48
<i>Cleared / exotic vegetation and infrastructure</i>		1.63
<i>Approximate total VMP area</i>		3.12

*This includes the extent of PCTs with weeds and exotics present

AEP (2024) noted that the following threatened flora and fauna species have been recorded within the development site but not during recent surveys:

- Fauna
 - *Phascolarctos cinereus* (Koala)
- Flora
 - *Acacia pubescens* (Downy Wattle)
 - *Allocasuarina diminuta*
 - *Hibbertia puberula*
 - *Persoonia nutans* (Nodding Geebung)

AEP concluded that these species are unlikely to occur within the site due to the existing degraded habitat condition.

Threatened species that were not recorded but may exist at the site were identified by AEP (2024) as:

- *Myotis macropus* (Southern Myotis) – a microbat
- *Rhodamnia rubescens* (Scrub Turpentine) – although not recorded within the site, suitable habitat for this flora species will be retained

Appendix B of the BDAR lists all flora species recorded by AEP (2024) on site. These include priority weeds listed under the NSW *Biosecurity Act 2015* and weeds of national significance. No aquatic weeds were observed.

3.3. Bush fire management

A bushfire assessment was conducted by BCBHS (2024) in accordance with Planning for Bushfire Protection (NSW Rural Fire Service 2019) (PBP 2019). BCBHS (2024) identified required bushfire protection measures for the development site, including asset protection zones (APZs) where the fuels are maintained to prevent the spread of fire between a hazard and an asset. The required width of the APZs is determined by the vegetation structure of the identified hazard, Fire Danger Index, effective slope and the type of development (residential development or Special Fire Protection Purpose).

The VMP and landscape plans are consistent with bushfire requirements to maintain tree canopy with mown grass and no shrub layer in specified areas.

4. Management framework

4.1. Management zones and objectives

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed (SER 2004). The national standards for ecological restoration identify three management approaches (SERA 2021):

- Natural regeneration - where natural vegetation can recover with minimal additional input, such as targeted weed control through bush regeneration techniques
- Assisted regeneration - where natural vegetation needs active management, such as weed control and revegetation
- Reconstruction - where damage is high and natural vegetation needs to be reintroduced through extensive revegetation and ongoing weed control.

Targeted measures will be implemented in the VMP area to improve ecological health compared to the existing (baseline) conditions. It is not realistic to expect PCT benchmark conditions (Appendix B) to be met within a five-year management regime given the existing conditions, however, improved structure and species diversity must be demonstrated. Enhancing the ecological health of the VMP area will strengthen regional ecological connectivity between the Georges River and bushland to the south.

VMP management zones and objectives are nominated in Table 4-1 based on current conditions. Management zones are mapped in drawing L04 of the landscape plans (Appendix A).

Table 4-1: VMP management zones

MZ#	Management zone	Existing vegetation & condition (from AEP 2024)	Area	Baseline condition / comment	Objectives
MZ1	PCT 4059 Natural regeneration	PCT 4059: Sydney Hinterland Sandy Creekflat Shrub Forest - Good	0.63	This zone comprises riparian forest. Vegetation is mesic, containing <i>Melaleuca linariifolia</i> , <i>Eucalyptus resinifera</i> and <i>E. piperita</i> . The ground layer was rich with native shrubs, forbs, grasses and sedges with weed incursion including <i>Lantana camara</i> , <i>Ageratina adenophora</i> and <i>Cinnamomum camphora</i> . (AEP 2024)	Protect native species Control weeds to encourage natural regeneration of native species
MZ2	PCT 4059 Assisted regeneration	PCT 4059: Sydney Hinterland Sandy Creekflat Shrub Forest - Poor	0.15	This zone has been heavily cleared and disturbed. Few scattered eucalypts and shrubs including <i>E. sclerophylla</i> , <i>Acacia melanoxylon</i> and <i>Casuarina glauca</i> . The ground layer is dominated by <i>Pteridium esculentum</i> and other native forbs with significant weed incursion from <i>Eragrostis curvula</i> , <i>Megathyrses maximus</i> and <i>Androdera cordifolia</i> . (AEP 2024)	Protect native species Control weeds to encourage natural regeneration of native species Revegetation with selected species characteristic of PCT 4059 to improve structure, diversity and condition
MZ3	PCT 4059 Reconstruction	Cleared/Exotic and Infrastructure	0.99	Mown grass	Weed control and revegetation with species from all structural layers characteristic of PCT 4059 Install localised rock batter for scour protection
MZ4	PCT 4028 Natural regeneration	PCT 4028: Estuarine Swamp Oak Twig-rush Forest - Good	0.19	This is part of the existing foreshore vegetation outside the site boundary but included in the VMP area.	Protect native species Control weeds to encourage natural regeneration of native species
MZ5	PCT 4024 Assisted regeneration	PCT 4024: Cumberland Blue Box Riverflat Forest - Degraded	1.21	This vegetation zone was predominantly canopy with only a scarce amount of native understorey adjoining Georges River. Most of the zone was turfed with <i>Cynodon dactylon</i> . The canopy contained <i>Eucalyptus baueriana</i> , <i>E. punctata</i> , <i>E. tereticornis</i> , <i>E. crebra</i> , <i>E. moluccana</i> and <i>Casuarina glauca</i> . (AEP 2024)	Protect native species Control weeds to encourage natural regeneration of native species Revegetation with selected species characteristic of PCT 4024 to improve structure, diversity and condition
MZ6	PCT 4024 Canopy with mown grass	Cleared/Exotic and Infrastructure	1.92	Mown grass with scattered tree canopy Existing buildings to be removed	Retain and plant canopy species characteristic of PCT 4024 Maintain mown grass
MZ7	Shared paths	Cleared/Exotic and Infrastructure	0.47	Mown grass Shared paths for walking and cycling	Retain existing shared paths. Where path edges are not mown grass, reduce safety and maintenance risks by installing suitable native plants about 0.5 m from path edges to avoid overhanging growth.
MZ8	Basins	Cleared/Exotic and Infrastructure	0.22	Mown grass Refer to the Stream and Riparian Management Plan (ADW Johnson 2024) for information about stormwater management	Position the construction footprint to avoid existing native plants and encroaching the riparian corridor. Design, build and maintain basins to meet water quality requirements.

4.2. Responsibilities

This section identifies responsibilities related to the VMP implementation prior to handover to Council for long-term management.

4.2.1. The landowner

The landowner (or developer acting on behalf of the landowner) is responsible for funding and overseeing implementation of this VMP until the regulator is satisfied that the performance criteria (Table 4-2) have been met. This includes contacting the Council to organise inspections associated with critical stages/milestones in VMP implementation progress.

4.2.2. Implementation of on-ground works

Infrastructure such as basins, culverts and fences need to be designed and constructed by suitably qualified and experienced personnel.

The person(s) undertaking weed control and revegetation will need to demonstrate the following minimum qualifications and experience:

- Certificate III in Conservation and Land Management and/or Certificate III in Natural Area Restoration
- Minimum of 500 hours practical bushland regeneration under an experienced supervisor.

Supervisors will need to demonstrate the following minimum qualifications and experience:

- Certificate IV in Conservation and Land Management and/or Certificate IV in Natural Area Restoration
- Minimum of 700 hours practical bushland regeneration.

A Chemcert AQF III or greater is required for persons undertaking chemical weed control.

4.2.3. Site ecologist

A qualified and experienced ecologist will be required to review progressive implementation of the VMP. The site ecologist must be independent of the bush regeneration contractor and landholder. They must be a practicing member of the Society for Ecological Restoration Australia, Ecological Consultants Association of NSW or equivalent. A site ecologist will assess and report progress to Council annually.

Council will be advised by the landowner of the name and contact details of the site ecologist when VMP implementation commences.

4.3. Summary of actions, performance criteria and costs

Timeframes for works within the VMP area are linked to stages in the development plan (Figure 4-1), including:

- The development site will be maintained in its current condition by mowing and minor weed control until development or restoration commences. This will minimise the risk of weed proliferation and allow native plants to naturally regenerate where there is resilience.
- Stormwater basins will be constructed in Stages 1, 4 and 5. The construction footprint for basins will not encroach on the inner VRZ and any minor encroachment on the outer VRZ will be compensated contiguous with the VRZ.
- Other VMP tasks will commence in Stage 8 when the existing buildings are demolished. Activities in the foreshore and riparian corridor will be implemented over a five-year period or until performance criteria are satisfied (see Table 4-2).

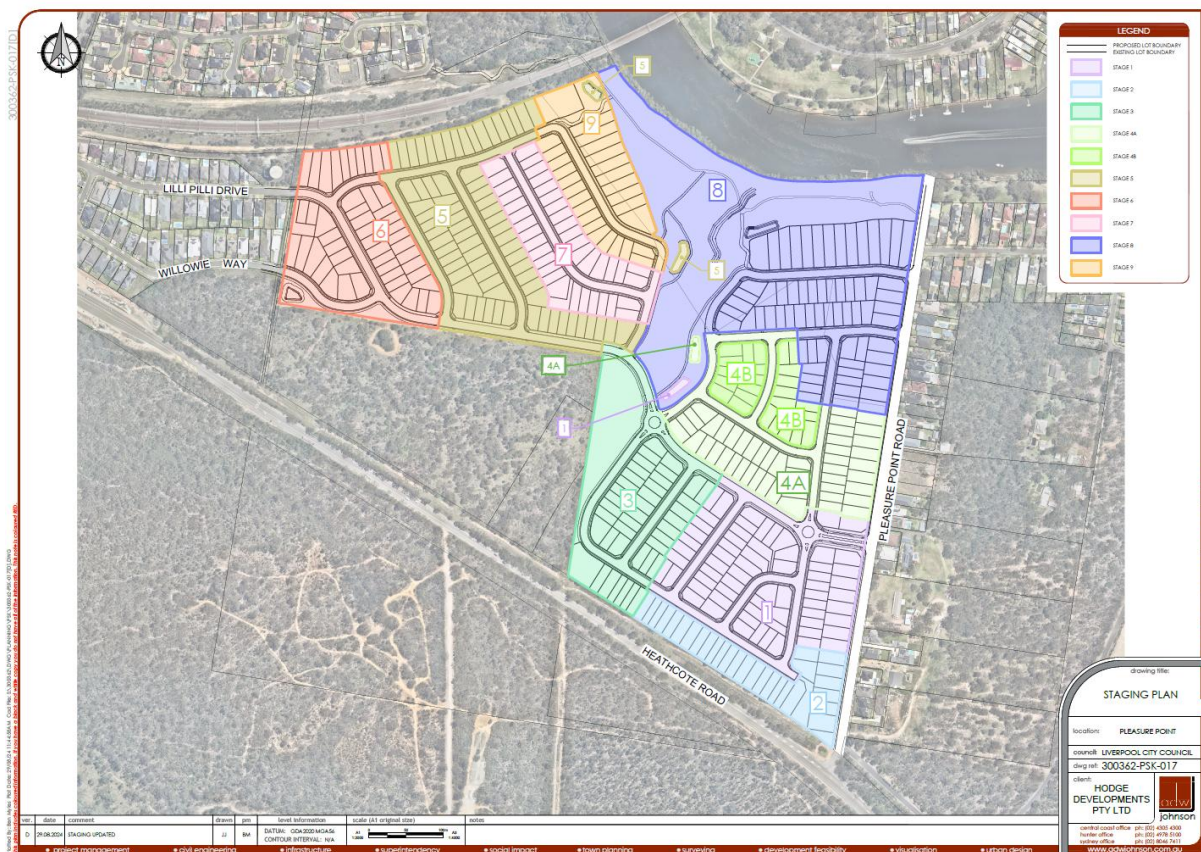


Figure 4-1: Development staging plan (ADW Johnson 2024)

Table 4-2 summarises VMP area management actions and associated performance criteria linked to development stages. Costs presented in the table are estimates at the time of preparing this VMP and must be confirmed through standard procurement processes prior to implementation to reflect current environmental conditions and supply costs. A total 20-year timeframe has been assumed for the development, including five years for the VMP in Stage 8.

Table 4-2: Summary of VMP actions, performance criteria and costs

Item	Timing	Management action	Performance criteria	Cost assumptions	VMP cost estimate	More info
1	Stage 1	Map and stake monitoring sites in representative locations with at least one monitoring site in each VMP management zone. Take photos and assess baseline conditions at these sites.	Baseline conditions documented		\$5000	s.5.1 BDAR (AEP 2024)
2	Stages 1+	At the start of each stage, position temporary construction fencing and signage to prevent construction activities affecting adjacent areas Remove temporary fencing and signage upon completion of construction works	No harm to native vegetation in the VMP area	Costs covered under the civil construction budget	-	s.5.2
3	Stages 1+	Remove rubbish	No rubbish within the VMP area	\$1000 p.a.	\$20,000	
4	Stages 1-7	Maintain mowing and weed control	Baseline conditions in the VMP area maintained or improved	Team 2 @\$1250/day for 5 days p.a. (15 years)	\$93,750	s.5.5
5	Stages 1+	Install temporary erosion controls (e.g., sediment fences) Remove erosion controls once site is stabilised	No erosion entering or within the VMP area No sediments released to the Georges River from the VMP area	Costs covered under the civil construction budget	-	s.5.3
6	Stages 1-7	Salvage native timber from the construction area to create timber habitat or mulch in suitable places in the VMP area	Habitat in VMP enhanced Weeds suppressed by mulch		\$20,000	s.5.4
7	Stage 1, 4, 5	Construct basins	Basins functioning as designed	Costs covered under the civil construction budget	-	Engineering design plans by ADW Johnson
8	Stage 7	Review VMP work schedule and obtain quotes for implementation of remaining VMP activities	Bush regenerator engaged to commence in Stage 8	Costs covered under the project management budget	-	s.4.2.2
9	Stage 7	Source suitable number and species of local provenance plants to be supplied and installed in Stage 8 – Year 1	Suitable tubestock available within the required timeframe	Tubestock supply and install \$10 each (estimated as 90,000 plants – see Table 5-2) Includes tree guards for trees and shrubs plus fertiliser and initial watering	\$900,000	s.5.6
10	Stage 8 – Year 1	Primary weed control	<10% weed cover prior to planting	Team 4 bush regenerators @\$2500/day for 12 days	\$30,000	s.5.5

Item	Timing	Management action	Performance criteria	Cost assumptions	VMP cost estimate	More info
11	Stage 8 – Year 1	Revegetation in selected management zones, including installation of tree guards	All supplied plants are healthy and installed within two weeks of delivery Failed plantings will be replaced within one year	See item 9	-	s.5.6
12	Stage 8 – Years 2 to 5	Irrigation and maintenance weed control	Weed cover to be <10% in spring and autumn	Team 4 bush regenerators @\$2500/day for 12 days for four years	\$120,000	s.5.5
13	Stage 8 – Years 2 to 5	Supplementary / replacement planting	All supplied plants installed within two weeks of delivery Failed plantings will be replaced within one year	Up to 10% of initial plantings replaced i.e., 9000 plants	\$90,000	s.5.6
14	Stage 8 – Years 2 to 5	Annual monitoring of the VMP area undertaken by a qualified and independent site ecologist. Results incorporated in annual reports and recommendations for adaptive management made to the landowner and bush regeneration contractor. Annual report submitted to Council.	Monitoring results, including photographs and data. Acceptance of annual reports by Council and hand-over of the VMP area to Council after five years as required under a VPA.	\$3000 p.a. for five years	\$15,000	s.5.1
15	Stages 1+	Community awareness material updated as the development progresses		\$5000 initial cost then \$5000 for updates	\$10,000	
16	Stages 1+	Install permanent signage		Costs covered in the landscaping budget	-	
				Total VMP cost	\$1,303,750	

5. Description of VMP actions

5.1. Monitoring, evaluation and reporting

The independent site ecologist will monitor the VMP area annually during Stage 8 to determine if the performance criteria set out in Table 4-2 are being achieved or if adaptive management is required. Adaptive management involves an integrated process of monitoring, reviewing and responding to the health and condition of the vegetation to identify if any changes are required to ensure the objectives of the VMP are achieved. Results of monitoring and adaptive management will be documented and provided to the certifier to include in annual reporting to Council.

Photo monitoring points (at least one site in each management zone) are to be identified on maps, marked on-ground using star pickets and applied consistently in annual monitoring and reporting.

Key performance indicators for revegetation will be based on the following criteria to inform adaptive management and improve long-term success:

- Survival rate – measure the percentage of plants that survive until maturity. Assess plant health and growth progress, noting any species-specific survival challenges.
- Replacement of failed plants – track the number and species of plants that do not survive, whether due to vandalism or natural causes, and replace these with local provenance local species to maintain ecological consistency.

Annual reports will include information compiled from the contractors' records as well as results of the assessment by the independent ecologist, as follows:

- The reporting period
- The names, qualifications and experience of bush regeneration contractors (if relevant) and the independent ecologist
- Summary of results against the performance criteria in Table 4-2
- Baseline photographs and subsequent comparative photographs ('before and after')
- A summary of works carried out within the period, including the dates spent on site doing works, methods used (including herbicides), tubestock details (provenance, numbers, species)
- Estimated percentage native cover vs weed cover
- Species list in each structural layer - any new infestations of priority weeds listed for Greater Sydney must be reported to Council immediately
- A description of any problems encountered in implementing the works recommended in the VMP and associated plans and how they were overcome (i.e. adaptive management)

5.2. Temporary fencing and signage

Temporary construction fencing and signage will be installed to demarcate each development stage and prevent harm to adjacent areas. Fencing will be designed and positioned in accordance with the Australian Standard Protection of Trees on Development Sites (AS4970-2009) and incorporate the relevant protection zones for trees and vegetation to be retained. Exclusion zones are to be clearly marked on design drawings issued for construction and displayed in prominent places and referred to during site inductions.

No storage of materials or machinery is to be undertaken within exclusion zones or retained vegetation areas, and no preparation of chemicals or concrete is to occur these areas.

5.3. Earthworks and erosion control

There will be no earthworks in the VMP area in areas of retained native vegetation. Erosion and sediment controls will be installed along the interface of the development footprint and VMP area prior to construction commencing to prevent sediment runoff into the VMP site and further downstream into the Georges River.

Weed-free mulch sourced from the development site (see section 5.4) is to be used to cover bare areas of soil to reduce erosion risk and suppress weeds. Mulch is not to be applied in flood zones or steep slopes due to the risk that it will be washed away, so alternative soil stabilisation methods (e.g., weed matting) must be used in these areas.

5.4. Reuse removed native timber

Native trees cleared from the development site may be suitable for reuse as mulch or timber logs in the VMP area to provide animal habitat, encourage natural regeneration, help prevent soil erosion and suppress weeds. Where appropriate, timber from felled trees may be used to protect against potential scour where erosion or gullying is present or positioned to delineate walking tracks. Other native timber approved for removal may be mulched and applied to VMP areas to suppress weeds. Positioning of the logs and mulch will be done under guidance from the bush regeneration contractor.

5.5. Weed treatment

Weeds are a major threat to the ecological values of the VMP area. Weed introduction and dispersal must be minimised and weed infestations must be managed at all stages of the development. Any priority or environmentally invasive weed infestations that occur must be fully suppressed and destroyed by appropriate means. Weed control activities are to be undertaken in accordance with the Greater Sydney Regional Strategic Weed Management Plan 2023-2027 and this VMP.

Initial and ongoing weed control will enhance the condition of native vegetation in the VMP area, potentially reducing costs for revegetation at later stages of the development if there is natural resilience and native plant regeneration.

5.5.1. Methods

Best practice techniques should be applied by the bush regeneration contractor for the weeds being targeted. Detailed information and current recommended treatment methods for each weed species, including links to species management guides, are provided on the NSW WeedWise website at <https://weeds.dpi.nsw.gov.au/>. Further information is available in publications such as:

- Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland (DEC 2005)
- Noxious and Environmental Weed Control Handbook. A Guide to Weed Control in Non-crop, Aquatic and Bushland Situations, 5th Edition (DPI 2011)

Weeds and exotics will continue to be controlled by suitable methods (e.g., mowing, brushcutting, slashing, herbicide application) prior to construction or restoration. Multiple treatments using different techniques may be required. Manual or hand removal of weeds should be done in small ecologically sensitive areas or for weed species that require this technique.

Application of herbicide during weed control works will depend on species targeted and the growing situation. The selection of an herbicide and the application method for a particular species or class of plant will be determined by factors such as the degree of infestation of target species, and risk to nearby native flora and waterways. Use of herbicides must be according to the NSW *Pesticides Act 1999*, Material Safety Data Sheets and labelling instructions for specific trade name herbicides and off label use permits registered with the APVMA. The DPI (2011) document cited above should be referred to as guide for specific herbicides, record keeping and herbicide application techniques.

Slashing can be used to prevent weeds from flowering and setting seed. This method can be undertaken with a slashing implement or by using a handheld brush cutter (DPI 2018). DEC (2005) has highlighted that slashing or mowing can be used in bushland areas (with grassy native understorey) as an initial or holding treatment to reduce weed mass. This allows for more efficient follow up as fast-growing reshooting weeds can be spot sprayed with herbicide among areas of native grasses and herbs. DEC (2005) also suggest that to effectively control exotic annual herbs and grasses, mowing or slashing must be done at least monthly in summer (possibly more frequently if conditions are warm and wet and weed growth is accelerated). For perennial weeds that mature in mid to late summer, mowing or slashing may be reduced to two to three times each season, with the final treatment being applied late in the season, ideally before fruit ripens and seed becomes viable (DEC 2005).

5.5.2. Biosecurity hygiene

Biosecurity hygiene protocols must be applied during implementation of the VMP to reduce the risk of weed and disease spread (e.g., *Phytophthora cinnamoni*) while the plants are establishing. Pursuant to the *Biosecurity Act 2015* and the *Biosecurity Regulation 2017*, all machinery, vehicles and other equipment entering or leaving the development site must be clean and free of priority weed material to prevent the spread of weeds to and from the development site. The following information must be included in site inductions and implemented:

- Clean tools and footwear before moving into the VMP area
- Do not stockpile weeds
- Securely bag or cover loads of weed-contaminated material
- Dispose of removed weeds and soil at an appropriate waste management facility
- Separate weeds from native vegetation to be mulched – do not use weeds for mulch
- Minimise soil disturbance in weed infested areas.

5.6. Regeneration/revegetation

A diverse and well-structured vegetation corridor will be achieved using techniques that include weed control, revegetation and assisted natural regeneration.

5.6.1. Seed collection and plant supply

Plant supply must be organised at least 3-6 months prior to planting. Seed collection may be required to ensure suitable indigenous species are available for revegetation works. All plantings should be of local provenance, with seed collected from nearby patches of vegetation where possible. Local provenance seeds will be well adapted to the local environment, its soils, climate, salinity and other processes. However, nurseries that supply indigenous seedling stock, (not horticultural varieties), may also be used to supplement the plantings.

Seed collection zones can extend within a radius of 3 km for groundcover, shrubs and trees and up to 10 km for grasses. The collection site should reflect the natural conditions that exist for the area being regenerated. Record keeping of seed collection and planting locations is to be as per the Florabank guidelines (Mortlock 2000). A Section 132C licence under the NSW *National Parks and Wildlife Act 1974* will be required to undertake seed collection.

5.6.2. Seed application

Native seed application may be suitable in parts of the site to supplement (not replace) planting and achieve VMP performance objectives. Seed application involves the sowing of native seeds by hand or machine directly to a revegetation area. Seed species must be characteristic of the target PCT. There can be differences in the germination rate between species, so the recommended sowing rates (Table 5-1) may need to be amended, depending on the existing structure and local conditions:

Table 5-1: Seeding requirements

Formation	Seeding density per hectare
Eucalypts, Acacias and large seeded species	50-100 grams per species
Shrubs and grasses	25-50 grams per species

5.6.3. Planting

Planting densities and quantities for revegetation areas are indicated in Table 5-2. Planting densities for trees, shrubs and groundcovers have been prescribed by Council. There will be approximately 90,000 initial tubestock plantings. The landscape plans (Appendix B) indicate species to be planted in each management zone based on the dominant species characteristic of PCTs 4024 and 4059 that are likely to be available. If species identified on the landscape plan are unavailable due to supply issues, then alternative species can be selected from the full species list for the PCTs in Appendix A.

Table 5-2: Planting density and tubestock quantity for revegetation areas

MZ#	MZ type	MZ area (m ²)	Trees 1/5 m ²	Shrubs 1/3 m ²	Groundcover 5/m ²	Total quantity
MZ1	PCT 4059 Natural regeneration	6300	0	0	0	0
MZ2	PCT 4059 Assisted regeneration*	1500	150	250	3750	4150
MZ3	PCT 4059 Reconstruction	9900	1980	3300	49,500	51,810
MZ4	PCT 4028 Natural regeneration	2000	0	0	0	0
MZ5	PCT 4024 Assisted regeneration*	12,100	1210	1517	30,250	32,977
MZ6	PCT 4024 Canopy with mown grass*	19,200	3840	0	0	1920
MZ7	Shared paths	4700	0	0	0	0
MZ8	Basins	2200	0	0	0	0
Total		5.78 ha	196	416	6150	90,857 tubestock

Quantities are 50% less to allow for presence of existing native vegetation

Requirements for planting include:

- Good site preparation, such as removal of exotic grasses and weeds by slashing, mowing and/or herbicide treatment as suited to the site conditions, followed by application of mulch or weed matting to suppress weed regrowth.
- Planting should only consist of local provenance species (species endemic to the local area) and that are characteristic of the PCTs that occur onsite.
- Native plants are best planted in the cooler months of autumn, winter or early spring.
- The species to be planted consist of a range of formation classes (trees, shrubs, ground cover) to enhance the structure and species richness of the PCT.
- Planting densities should be sufficient to provide ground coverage and maximise soil stability, particularly along watercourses.

5.6.4. Fertilising

At the time of planting, a native slow-release fertiliser is be applied to each plant with an N: P: K ratio similar to that of 21.8: 0.7: 7.2. Water crystals should also be used to increase survival of establishing plants and reduce initial watering costs.

5.6.5. Watering

Watering is to abide by any local authority water restrictions or guidelines.

Watering is needed to support plant survival and achieve the required establishment rate. Tubestock are to be watered prior to planting as well as immediately after plant installation. Watering will be undertaken as required during the three-to-six month plant establishment period, and the following program is provided as a guide as the plants mature (subject to weather conditions):

- Month 1: water once per day
- Months 2-4: water once per week
- Months 5-6: water once per fortnight

The frequency of watering to achieve plant establishment will depend on the prevailing weather conditions at the time of planting and thereafter. Watering will generally be carried out in the cooler hours of the day (morning or afternoon) and be frequent enough to prevent wilting of plants.

Planting areas are to be monitored during the extended maintenance period to ensure that weather conditions are not adversely affecting the newly established plants. The watering program may need to be reinstated if plants are not thriving.

5.6.6. Plant protection

New plants will be protected from predation by herbivores (e.g., rabbits) and weeds by tree guards and weed mats or mulch. The tree guards will be removed and, if suitable, reused for supplementary planting once the plants become established.

5.7. Install permanent signage

Signage for education and navigation will be designed, installed and maintained at locations shown in the landscape plans. The signage will convey the important ecological values of the VMP area and how the community can help protect these values. It will include images of flora and fauna species that are indicators of the local ecosystems and PCTs. Signs will be constructed to minimise risk of vandalism.

Reflective, highly visible 'wildlife crossing' signage will be installed to alert traffic and pedestrians to potential wildlife, particularly near the playground.

5.8. Community awareness

Information material will be developed for potential residents and real estate agents involved in selling properties within the subdivision to highlight the environmental values of the area, including plant community types and native species of flora and fauna. The information will include guidelines on practices and behaviours to avoid environmental harm and support healthy ecosystems.

References

ADW Johnson 2024. *Residential Subdivision Pleasure Point - Development Application Urban Design Documentation*.

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NRAR 2012b. *Controlled activities: Guidelines for instream works*.

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Appendix B Landscape plans (Habit8 2025)

PLEASURE POINT

PROPOSED RESIDENTIAL SUBDIVISION

54 PLEASURE POINT ROAD HOLSWORTHY NSW

LANDSCAPE CONCEPT REPORT

03.04.2025

CLIENT REVIEW

ISSUE M

CLIENT:

HODGE
DEVELOPMENT
PTY LTD

LANDSCAPE ARCHITECT:



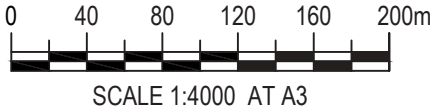
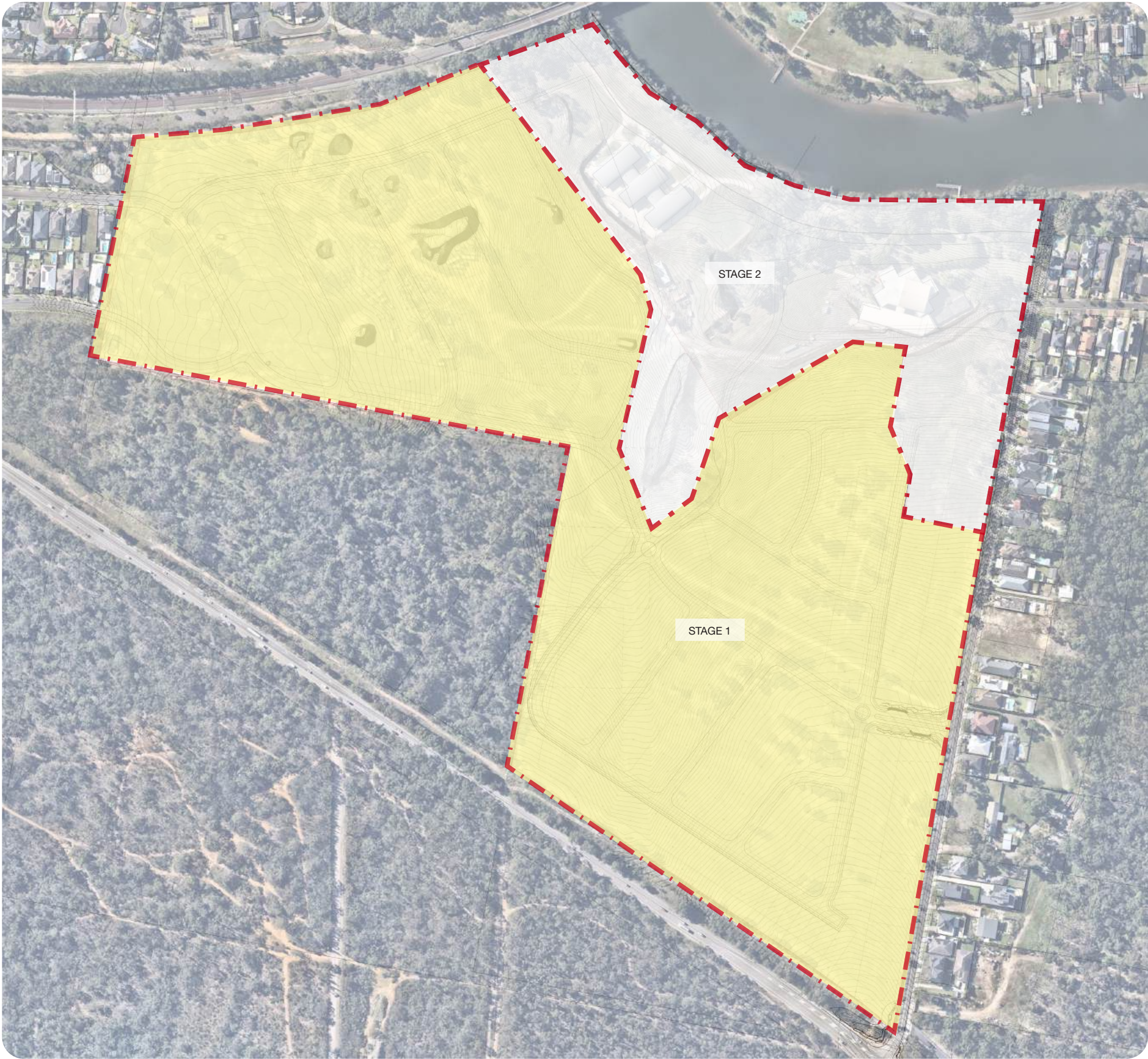
DRAWING LIST:

L-01	Coversheet
L-02	Staging Plan
L-03	Landscape Masterplan: Subdivision
L-04	Vegetation Management Zone
L-05	Street Tree Masterplan
L-06	Landscape Masterplan: Riparian Area + Foreshore Park
L-07	Landscape Concept Plan 01: Foreshore
L-08	Landscape Concept Plan 02: Foreshore
L-09	Landscape Concept Plan 03: Foreshore
L-10	Landscape Concept Plan 04: Foreshore
L-11	Landscape Concept Plan 05: Foreshore
L-12	Landscape Concept Plan 06: Foreshore
L-13	Typical Detail Concept Plan A: Key Intersection
L-14	Typical Detail Concept Plan B: T-Intersection & C: Infill + Ring Road
L-15	Landscape Section A1-A1
L-16	Landscape Section A2-A2
L-17	Landscape Section B-B
L-18	Landscape Section C-C
L-19	Landscape Section D-D
L-20	Landscape Section E-E: Central Spine & Section F-F: Infill + Ring Road
L-21	Indicative Plant Palette
L-22	Indicative Plant Palette (Re-Vegetation Zones) 01
L-23	Indicative Plant Palette (Re-Vegetation Zones) 02
L-24	Park and Playground - Landscape Concept Plan
L-25	Park and Playground - Equipment Images
L-26	Park and Playground : Landscape Section A-A
L-27	Park and Playground : Landscape Section B-B
L-28	Pleasure Point Park and Playground - Artist's Impression 01
L-29	Pleasure Point Park and Playground - Artist's Impression 02
L-30	Indicative Plant Palette : Park and Playground



STAGING PLAN

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**STAGING
PLAN**



SCALE
1:4000 @A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L02

REVISION
M

LANDSCAPE ARCHITECT



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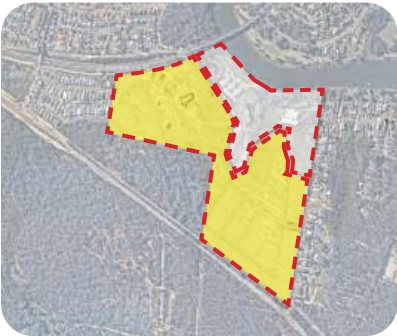
LANDSCAPE MASTERPLAN: SUBDIVISION



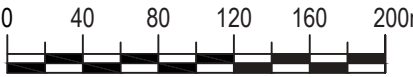
KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
-  PROPOSED TREE PLANTING
-  EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
-  EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
-  4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
-  PROPOSED FOOTPATH
-  TURF
-  GARDEN BEDS
-  REVEGETATION ZONE
-  EXISTING VEGETATION TO BE RETAINED
-  WAYFINDING SIGNAGE

ISSUE	DATE	PURPOSE
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L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



SCALE 1:4000 AT A3

CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE MASTERPLAN: SUBDIVISION

SCALE
1:4000 @A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L03

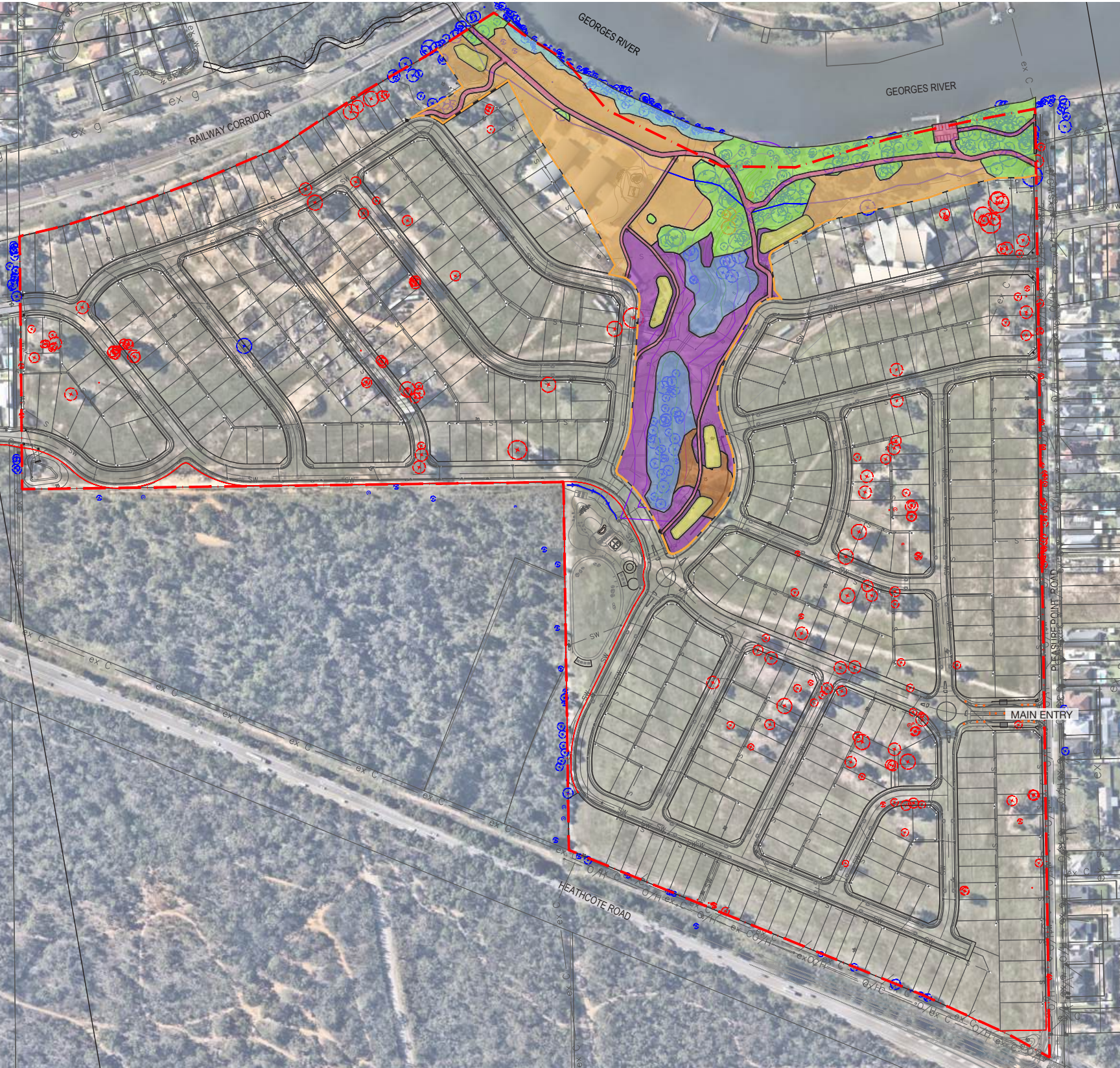
REVISION
M

LANDSCAPE ARCHITECT



HABIT8
Landscape Architecture & Urbanism
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BYRON BAY (Bundjalung country)
MELBOURNE (Wurundjeri country)
SE QUEENSLAND (Yugambel country)
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VEGETATION MANAGEMENT ZONE



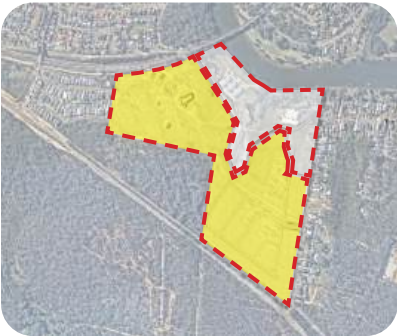
KEY

- SITE BOUNDARY
- EXTENT OF VMP WORKS

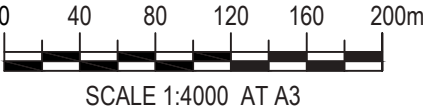
VEGETATION ZONES

- MZ1
PCT 4059 NATURAL REGENERATION (0.63 HA)
- MZ2
PCT 4059 ASSISTED REGENERATION (0.15 HA)
- MZ3
PCT 4059 RECONSTRUCTION (0.99 HA)
- MZ4
PCT 4028 NATURAL REGENERATION (0.187 HA)
- MZ5
PCT 4024 ASSISTED REGENERATION (1.214 HA)
- MZ6
PCT 4024 CANOPY WITH MOWN GRASS (1.923 HA)
- MZ7
SHARED PATH (0.47 HA)
- MZ8
BASINS (0.222 HA)

ISSUE	DATE	PURPOSE
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J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



CLIENT	HODGE DEVELOPMENT PTY LTD	
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW	
DRAWING TITLE	VEGETATION MANAGEMENT ZONE	
SCALE	1:4000 @A3	
DRAWN	CHECKED	
KM / DF / GP	DV	
PROJECT NO.	DRAWING NO.	REVISION
H8-24016-2	L04	M
LANDSCAPE ARCHITECT		



STREET TREE MASTERPLAN



MAIN ENTRY



Angophora costata
SYDNEY RED GUM



Brachychiton acerifolius
FLAME TREE



Lophostemon confertus
BRUSH BOX

CENTRAL SPINE



Eucalyptus 'Summer red'
RED FLOWERING GUM



Acacia floribunda
GOSSAMER WATTLE

RING ROADS



Flindersia australis
CROW'S ASH



Hymenosporum flavum
NATIVE FRANGIPANI



Callistemon hannah ray
HANNAH RAY BOTTLEBRUSH

INFILL ROADS



Tristaniopsis laurina
WATER GUM



Leptospermum petersonii
LEMON-SCENTED TEA TREE



Cupaniopsis anacardioides
BEACH TAMARIND

PLEASURE POINT ROAD



Melaleuca decora
WHITE PAPERBARK



Waterhousea floribunda
WEEPING LILLY PILLY



Banksia integrifolia
COAST BANKSIA

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L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



SCALE 1:4000 AT A3

CLIENT

HODGE DEVELOPMENT PTY LTD

PROJECT

PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE

STREET TREE MASTERPLAN

SCALE

1:4000 @A3

DRAWN

KM / DF / GP

CHECKED

DV

PROJECT NO.

H8-24016-2

DRAWING NO.

L05

REVISION

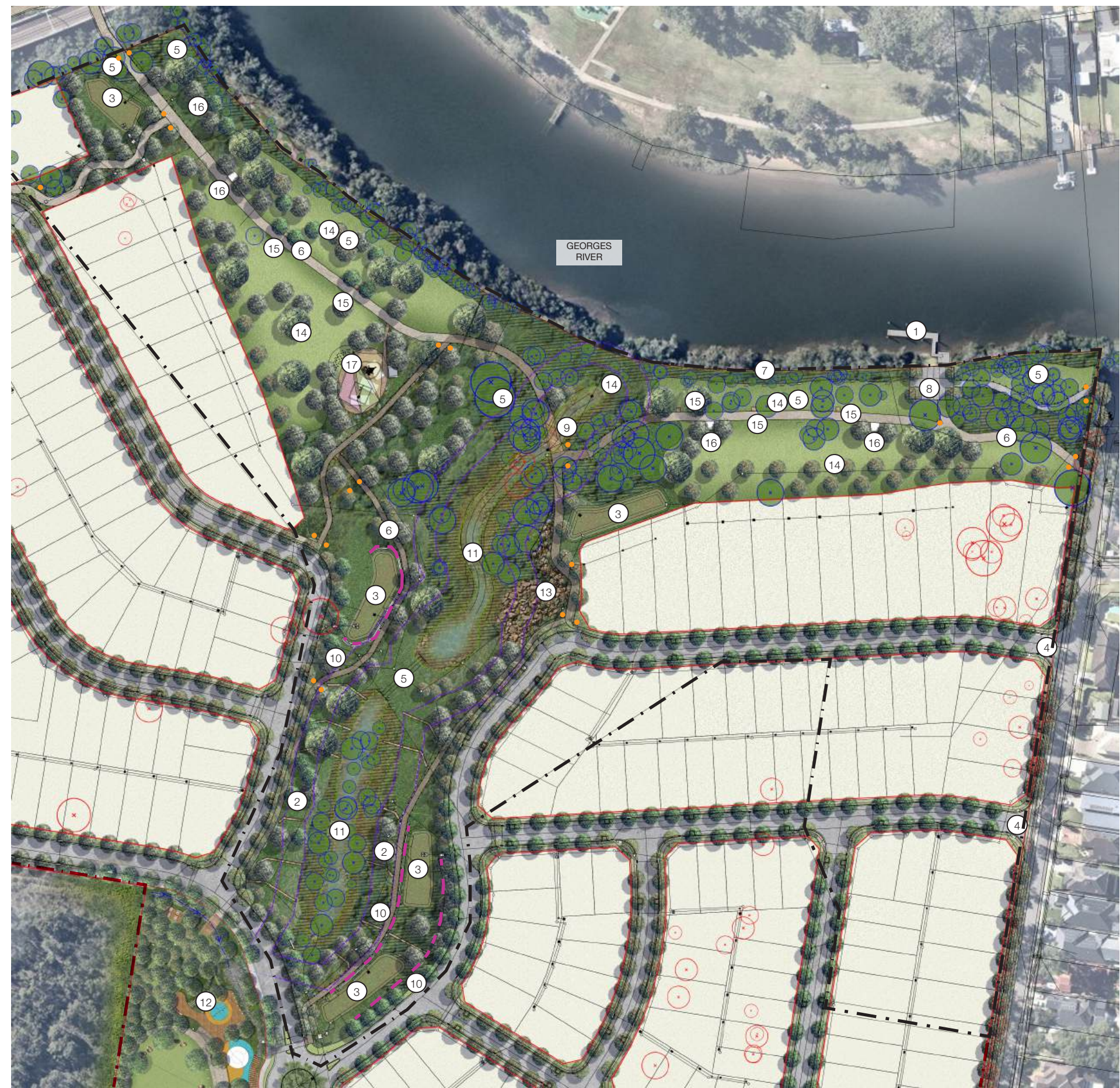
M

LANDSCAPE ARCHITECT



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MELBOURNE (Wurundjeri country)
BYRON BAY (Bundjalung country)
SE QUEENSLAND (Yugambel country)
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LANDSCAPE MASTERPLAN : RIPARIAN AREA + FORESHORE PARK



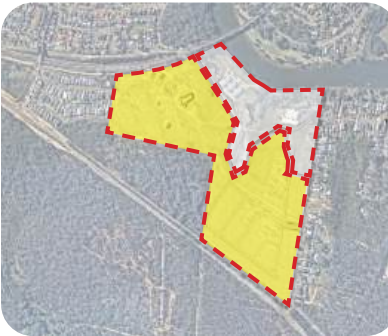
KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE

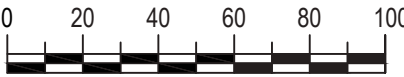
DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER WALLS
- WATER QUALITY BASINS
- SECONDARY ENTRY (SANDSTONE PLINTHS UNDER 2M HT.)
- EXISTING FORESHORE AREA
- FOOT PATH
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- MAIN PARK / PLAYGROUND
- ROCK LINE BATTER
- TURF AREA + SCATTERED TREES
- PLATFORM SEATS (2X2M)
- PICNIC SHELTERS / SEATING AREAS (MIN 4X4M)
- SMALL FORESHORE PLAYGROUND

ISSUE	DATE	PURPOSE
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K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



SCALE 1:2000 AT A3

CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE MASTERPLAN :
RIPARIAN + FORESHORE PARK

SCALE 1:2000 @A3		
DRAWN KM / DF / GP	CHECKED DV	
PROJECT NO. H8-24016-2	DRAWING NO. L06	REVISION M
LANDSCAPE ARCHITECT		



LANDSCAPE CONCEPT PLAN 01: FORESHORE



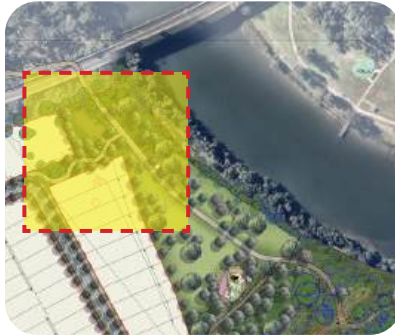
KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE
- BOLLARD + CHAIN BALUSTRADE

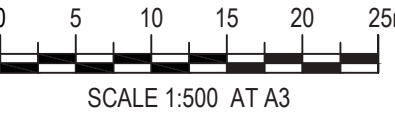
DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- EXISTING FORESHORE AREA
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO FOOTPATH / CYCLEWAY
- NEW 4M WIDE PEDESTRIAN FOOTPATH / CYCLEWAY
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- ROCK LINE BATTER
- TURF AREA + SCATTERED SHADE TREES
- PICNIC SHELTERS (MIN 4X4M)
- PLATFORM SEATS (2X2M)

ISSUE	DATE	PURPOSE
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K	28.03.25	CLIENT REVIEW
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M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN 01:
FORESHORE

SCALE
1:500 @A3
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KM / DF / GP

CHECKED
DV
PROJECT NO.
H8-24016-2

DRAWING NO.
L07

REVISION
M

LANDSCAPE ARCHITECT

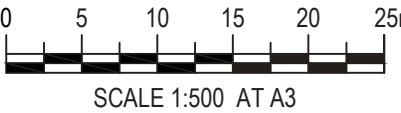


LANDSCAPE CONCEPT PLAN 02 : FORESHORE

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
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M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



SCALE 1:500 AT A3

CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN 02:
FORESHORE

SCALE
1:500 @A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L08

REVISION
M

LANDSCAPE ARCHITECT



KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE
- BOLLARD + CHAIN BALUSTRADE

DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- EXISTING FORESHORE AREA
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO FOOTPATH / CYCLEWAY
- 5a. NEW FOOTPATH (2.5M WIDTH)
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- ROCK LINE BATTER
- TURF AREA + SCATTERED SHADE TREES
- PICNIC SHELTERS (MIN 4X4M)
- PLATFORM SEATS (2X2M)
- SMALL PLAYGROUND
 - SHADE SAIL
 - 3 X SWING
 - LOG MAZE

LANDSCAPE CONCEPT PLAN 03: FORESHORE



KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE
- BOLLARD + CHAIN BALUSTRADE

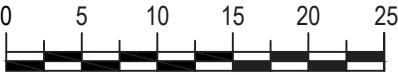
DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- EXISTING FORESHORE AREA
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO FOOTPATH / CYCLEWAY
- 5a. NEW FOOTPATH (2.5M WIDTH)
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- ROCK LINE BATTER
- TURF AREA + SCATTERED SHADE TREES
- PICNIC SHELTERS (MIN 4X4M)
- PLATFORM SEATS (2X2M)

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M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



SCALE 1:500 AT A3

CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN 03:
FORESHORE

SCALE
1:500 @A3
DRAWN
KM / DF / GP

CHECKED
DV
PROJECT NO.
H8-24016-2

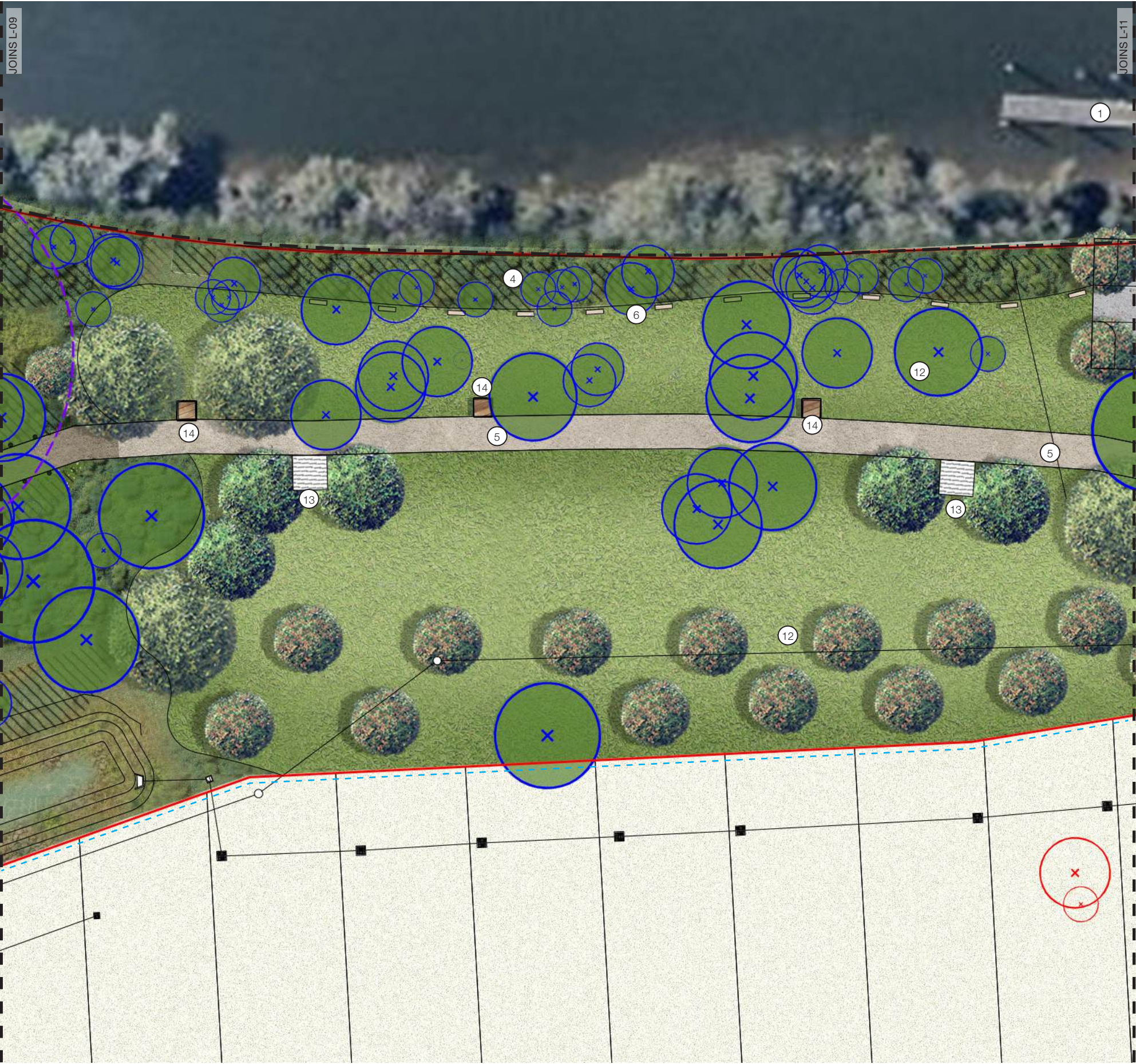
DRAWING NO.
L09

REVISION
M

LANDSCAPE ARCHITECT



LANDSCAPE CONCEPT PLAN 04: FORESHORE



KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE
- BOLLARD + CHAIN BALUSTRADE

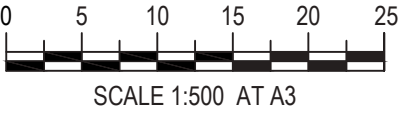
DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- EXISTING FORESHORE AREA
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO FOOTPATH / CYCLEWAY
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- ROCK LINE BATTER
- TURF AREA + SCATTERED SHADE TREES
- PICNIC SHELTERS (MIN 4X4M)
- PLATFORM SEATS (2X2M)

ISSUE	DATE	PURPOSE
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M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN 04: FORESHORE

SCALE
1:500 @A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L10

REVISION
M

LANDSCAPE ARCHITECT



JOINS L-10

An aerial photograph of a park area. A yellow dashed rectangular box highlights a specific section of the park, which appears to be a grassy field with some trees and a small structure. The surrounding area includes a paved path, a body of water, and a residential neighborhood.

CLIENT

**HODGE
DEVELOPMENT
PTY LTD**

DRAWING TITLE

LANDSCAPE CONCEPT PLAN 05:
FORESHORE

A simple north arrow pointing upwards, consisting of a vertical line with a semi-circle at the top and a horizontal line at the base.

DRAWN	CHECKED
KM / DF / GP	DV

LANDSCAPE ARCHITECT



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1. EXISTING JETTY AND CANOE RAMP
2. SANDSTONE BOULDER FEATURE WALLS
3. WATER QUALITY BASINS
4. EXISTING FORESHORE AREA
5. 4M WIDE EXISTING DRIVEWAY CONVERTED INTO FOOTPATH / CYCLEWAY
6. SITTING AREA
7. EXISTING CAR PARK EMBELLISHED
8. PEDESTRIAN BRIDGE
9. PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
10. RIPARIAN CORRIDOR AREA
11. ROCK LINE BATTER
12. TURF AREA + SCATTERED SHADE TREES
13. PICNIC SHELTERS (MIN 4X4M)
14. PLATFORM SEATS (2X2M)



LANDSCAPE CONCEPT PLAN 06: FORESHORE



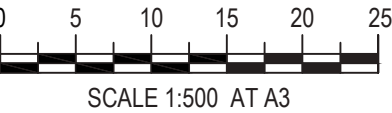
KEY

- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- 4M WIDE EXISTING DRIVEWAY CONVERTED INTO PEDESTRIAN BICYCLE PATH
- PROPOSED FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED
- WAYFINDING SIGNAGE
- BOLLARD + CHAIN BALUSTRADE

ISSUE	DATE	PURPOSE
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I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



CONTEXT PLAN



CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN 06: FORESHORE

SCALE
1:500 @A3

DRAWN / CHECKED
KM / DF / GP DV

PROJECT NO. / DRAWING NO. / REVISION
H8-24016-2 L12 M

LANDSCAPE ARCHITECT

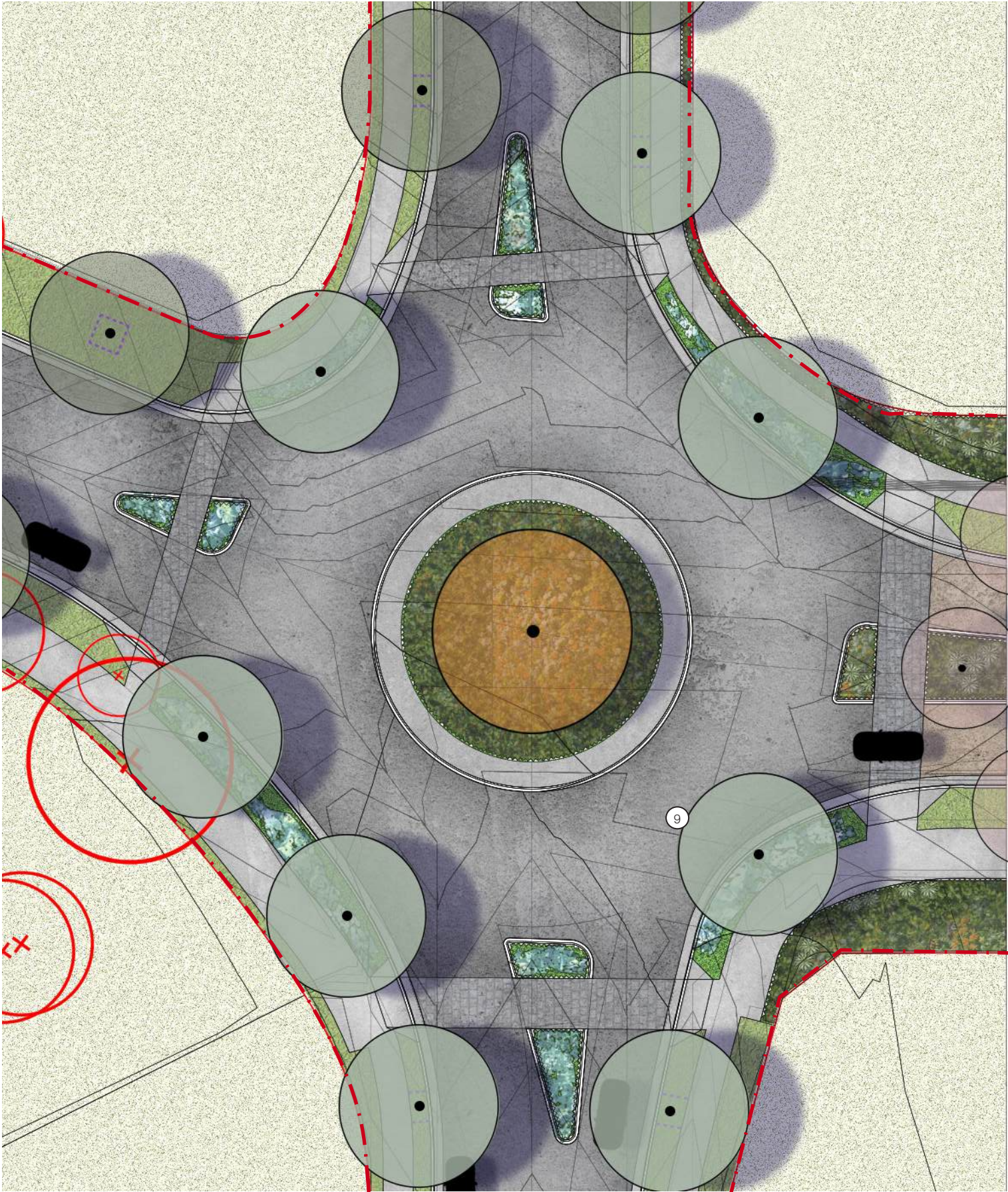
DESIGN NOTES

- EXISTING JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- EXISTING FORESHORE AREA
- NEW FOOT PATH (2.5M WIDTH)
- SITTING AREA
- EXISTING CAR PARK EMBELLISHED
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPARIAN CORRIDOR AREA
- ROCK LINE BATTER
- TURF AREA + SCATTERED SHADE TREES
- PICNIC SHELTERS (MIN 4X4M)
- PLATFORM SEATS (2X2M)
- PRAM RAMP CROSSING



TYPICAL DETAIL CONCEPT PLAN A

KEY INTERSECTION



KEY

- LOT BOUNDARY
- EDGING
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED
REFER TO ARBORIST'S REPORT
- TURF
- GARDEN BEDS
- BITUMEN ROAD
- COLOURED / PATTERNED
CONCRETE - PEDESTRIAN
CROSSING
- CONCRETE FOOTPATH
(BROOM FINISH)

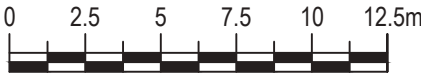
DESIGN NOTES

- MAIN ENTRY FEATURE TREES
- NATIVE EVERGREEN TREES
- FOOTPATH
- SHARED PATH
- TURF VERGE
- FEATURE FIG TREE
- FEATURE PAVING AT PEDESTRIAN CROSSING
- PLANTING EMBELLISHMENT AT NODES
- RESIDENTIAL LOTS

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



SCALE 1:250 AT A3

CLIENT
HODGE
DEVELOPMENT
PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
TYPICAL DETAIL CONCEPT PLAN A
KEY INTERSECTION

SCALE
1:250 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L13

REVISION
M

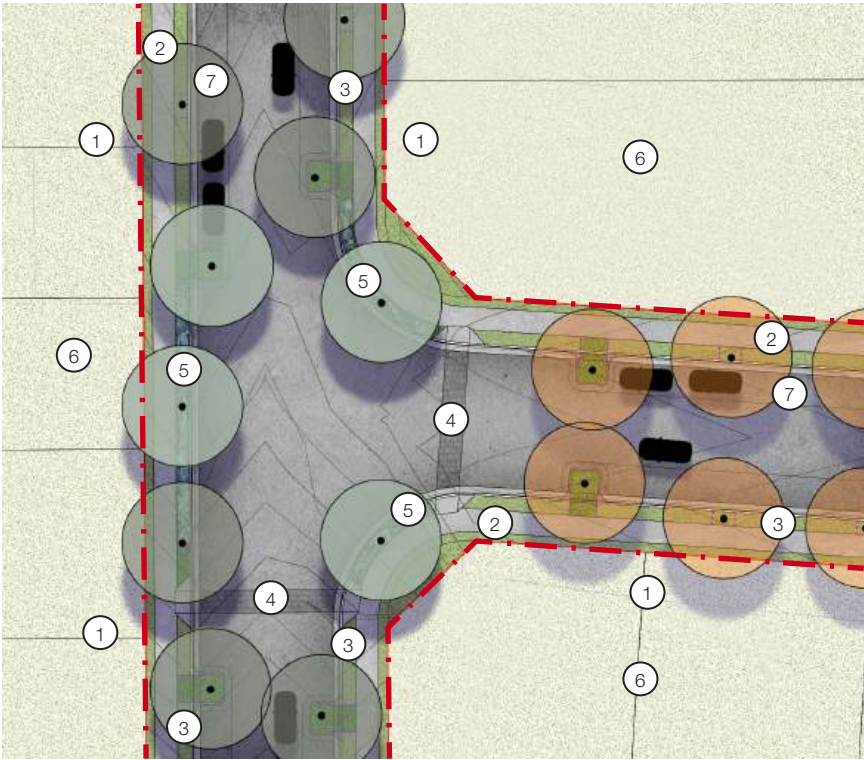
LANDSCAPE ARCHITECT



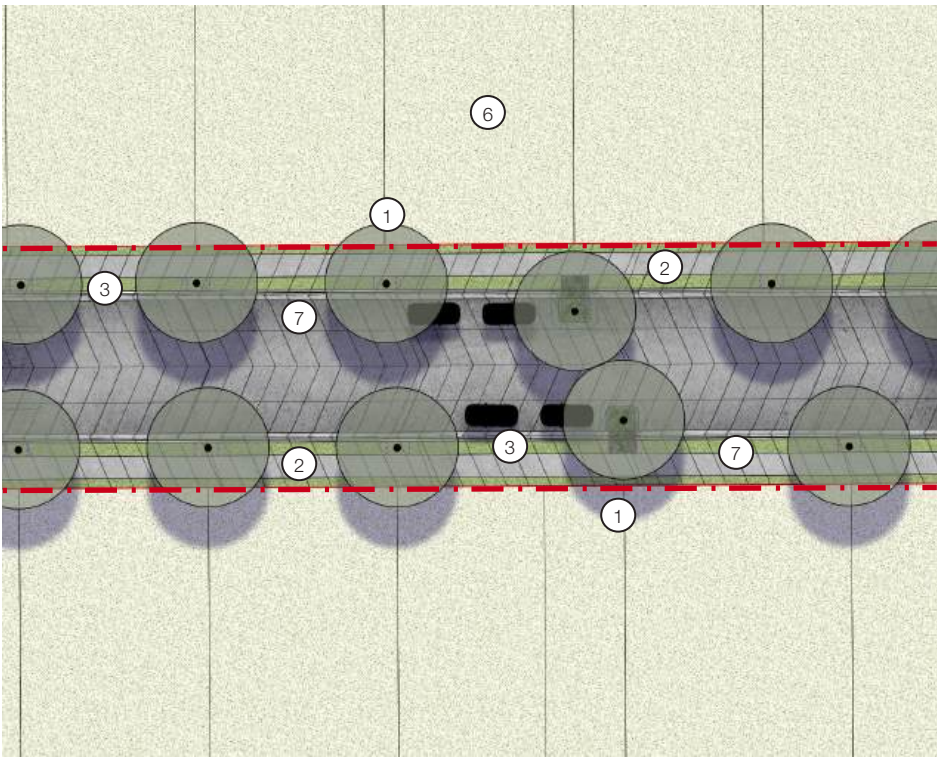
HABIT8
Landscape Architecture & Urbanism
SYDNEY (Cockatoo country)
BYRON BAY (Bundjalung country)
MELBOURNE (Wurundjeri country)
SE QUEENSLAND (Yugambel country)
www.habit8.com.au

TYPICAL DETAIL CONCEPT PLAN

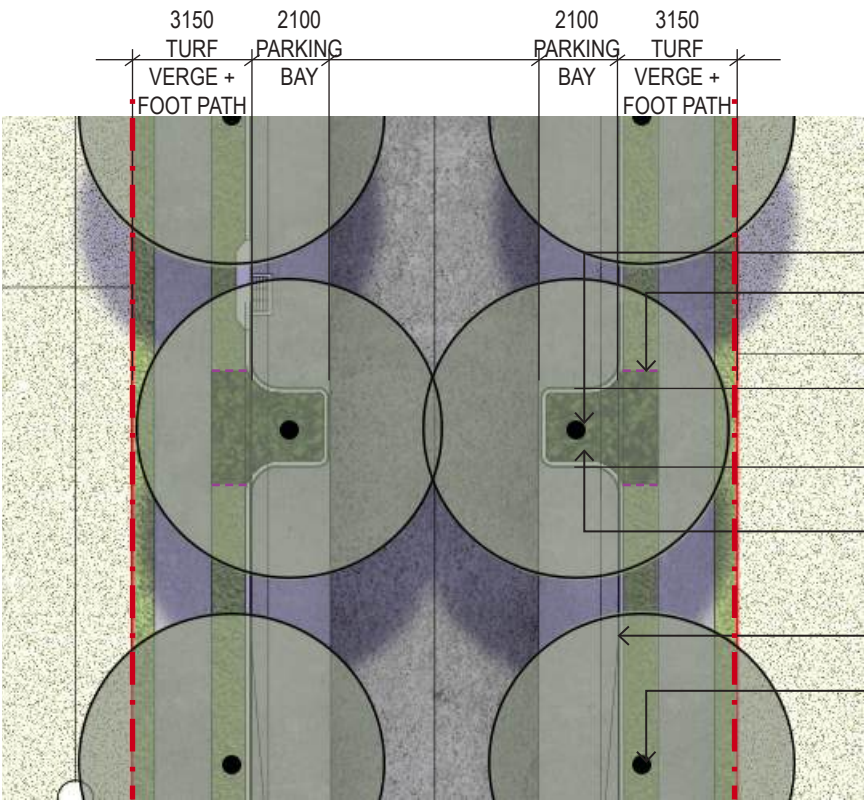
B:(T-INTERSECTION)
C:(INFILL+RING ROAD)



01 TYPICAL DETAIL CONCEPT PLAN B
Scale 1:500@A3



02 TYPICAL DETAIL CONCEPT PLAN C
Scale 1:500@A3



03 TYPICAL TREE PIT DETAIL (ROAD RESERVE)
Scale 1:200@A3

KEY

- LOT BOUNDARY
- EDGING
- PROPOSED TREE PLANTING
- TURF
- GARDEN BEDS
- BITUMEN ROAD
- COLOURED / PATTERNED CONCRETE - PEDESTRIAN CROSSING
- CONCRETE FOOTPATH (BROOM FINISH)

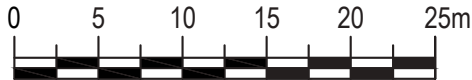
DESIGN NOTES

- NATIVE EVERGREEN TREES
- FOOTPATH
- TURF VERGE
- FEATURE PAVING AT PEDESTRIAN CROSSING
- PLANTING EMBELLISHMENT AT NODES
- RESIDENTIAL LOTS
- PARKING BAY

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
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J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



SCALE 1:500 AT A3

CLIENT
HODGE
DEVELOPMENT
PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
TYPICAL DETAIL CONCEPT PLAN
B: T-INTERSECTION
C: INFILL+RING ROAD

SCALE
1:500 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L14

REVISION
M

LANDSCAPE ARCHITECT



Landscape Architecture & Urbanism
SYDNEY
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LANDSCAPE SECTION A1-A1

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**LANDSCAPE SECTION
A1-A1**

SCALE
1:200 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L15

REVISION
M

LANDSCAPE ARCHITECT

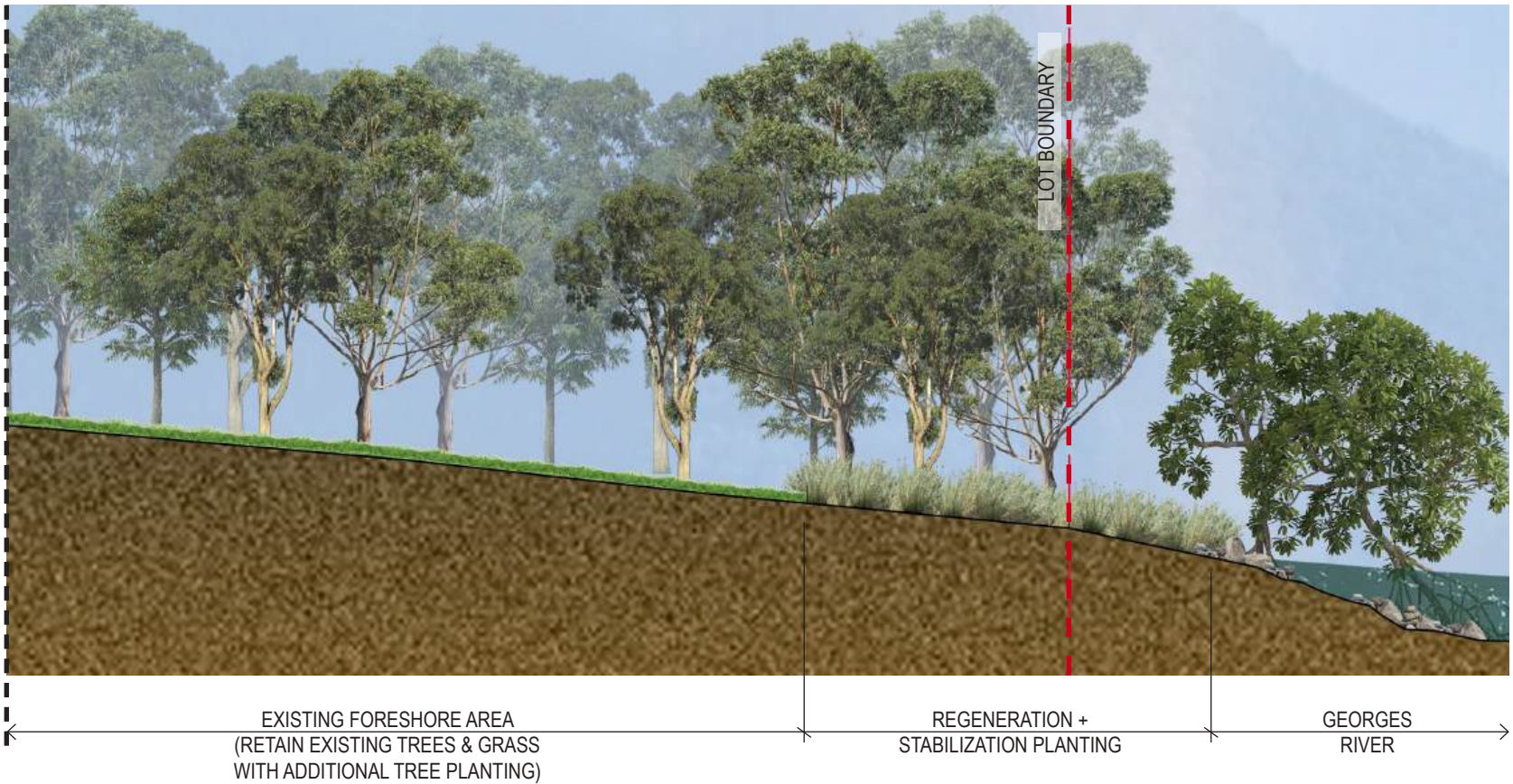


01 LANDSCAPE SECTION A-A
Scale 1:200@A3



LANDSCAPE SECTION A2-A2

ISSUE	DATE	PURPOSE
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B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
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G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**LANDSCAPE SECTION
A2-A2**

SCALE
1:200 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

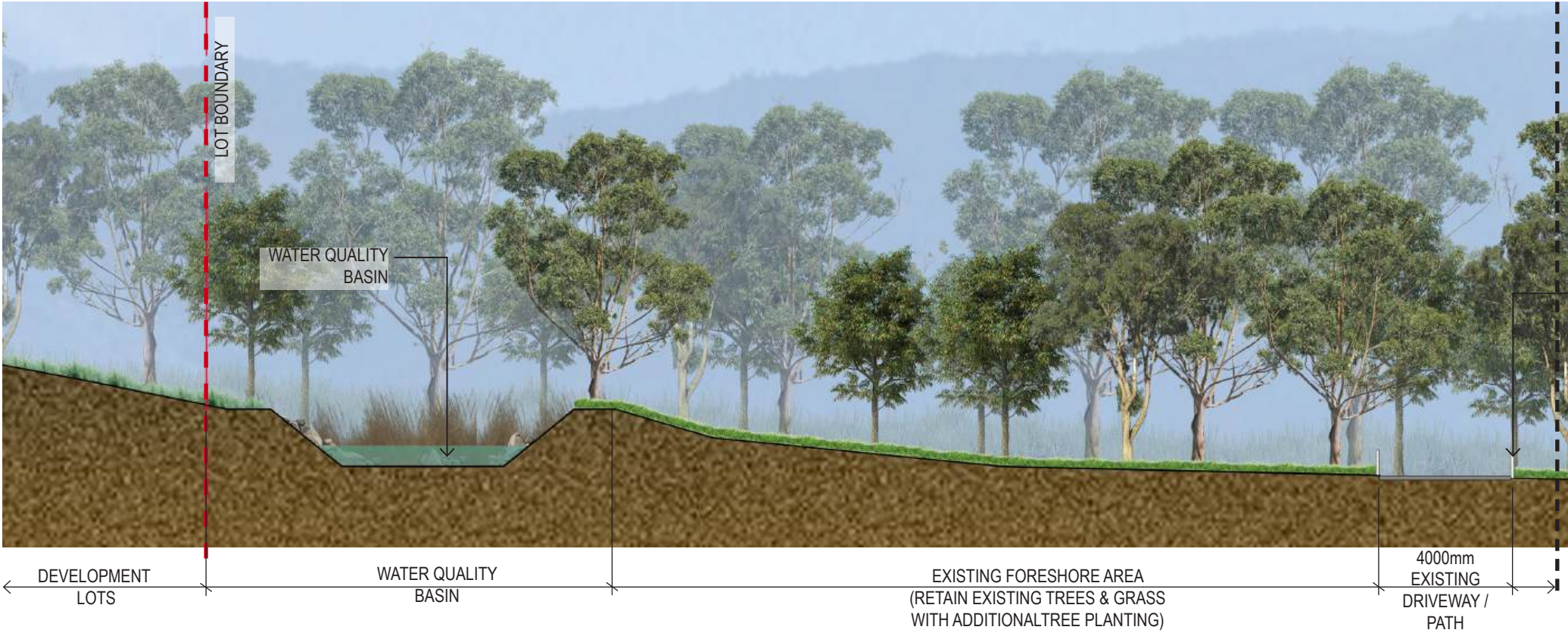
DRAWING NO.
L 16

REVISION
M

LANDSCAPE ARCHITECT

LANDSCAPE SECTION B-B

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
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J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT	HODGE DEVELOPMENT PTY LTD
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW
DRAWING TITLE	LANDSCAPE SECTION B-B



SCALE		
1:200 @ A3		
DRAWN	CHECKED	
KM / DF / GP	DV	
PROJECT NO.	DRAWING NO.	REVISION
H8-24016-2	L17	M
LANDSCAPE ARCHITECT		

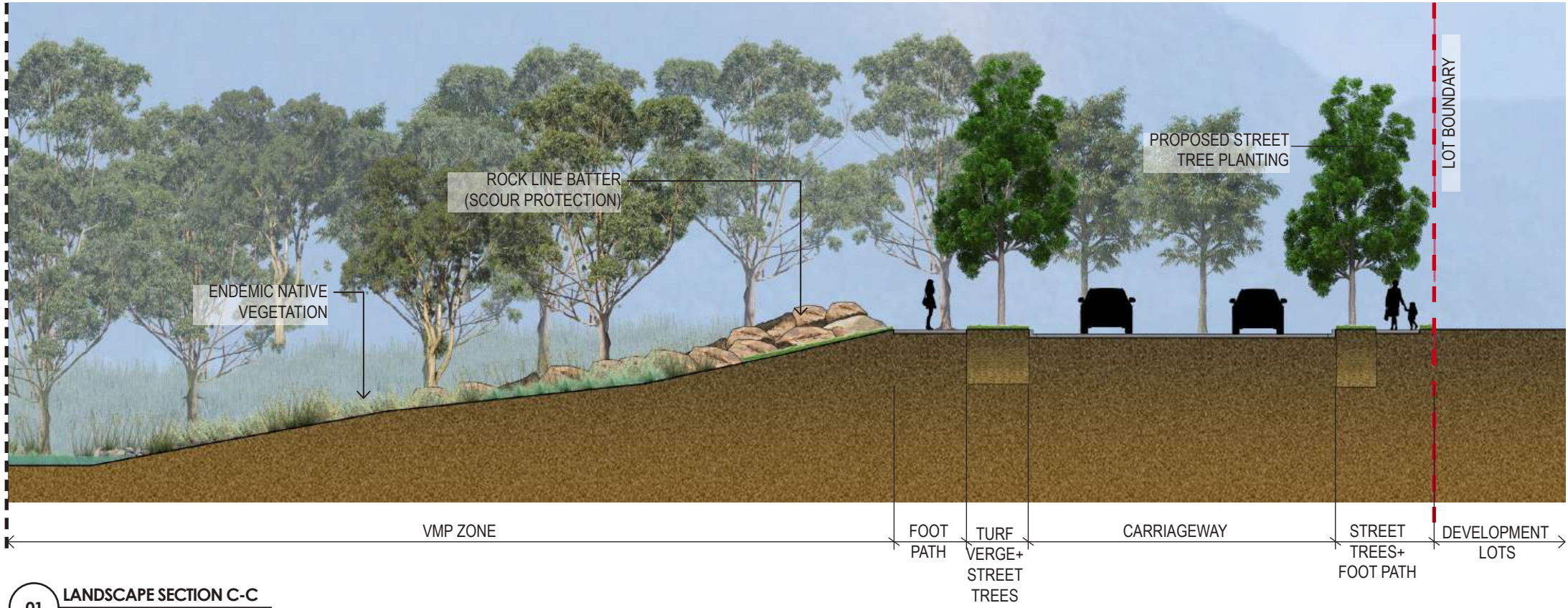
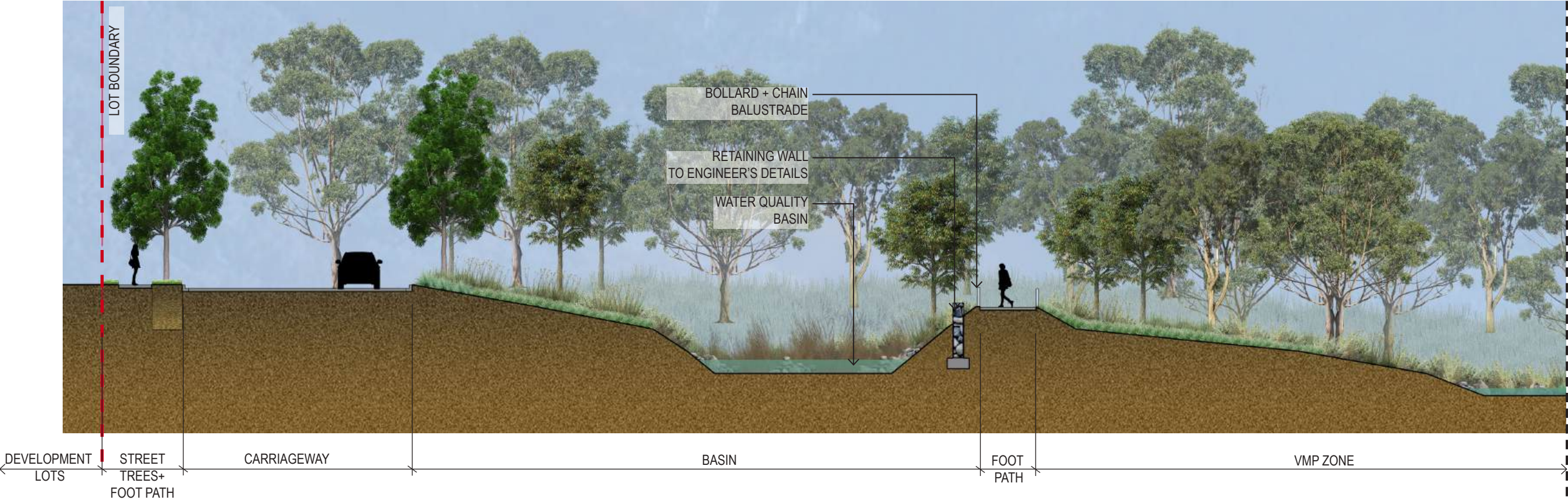


LANDSCAPE SECTION C-C

ISSUE	DATE	PURPOSE
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B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
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L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



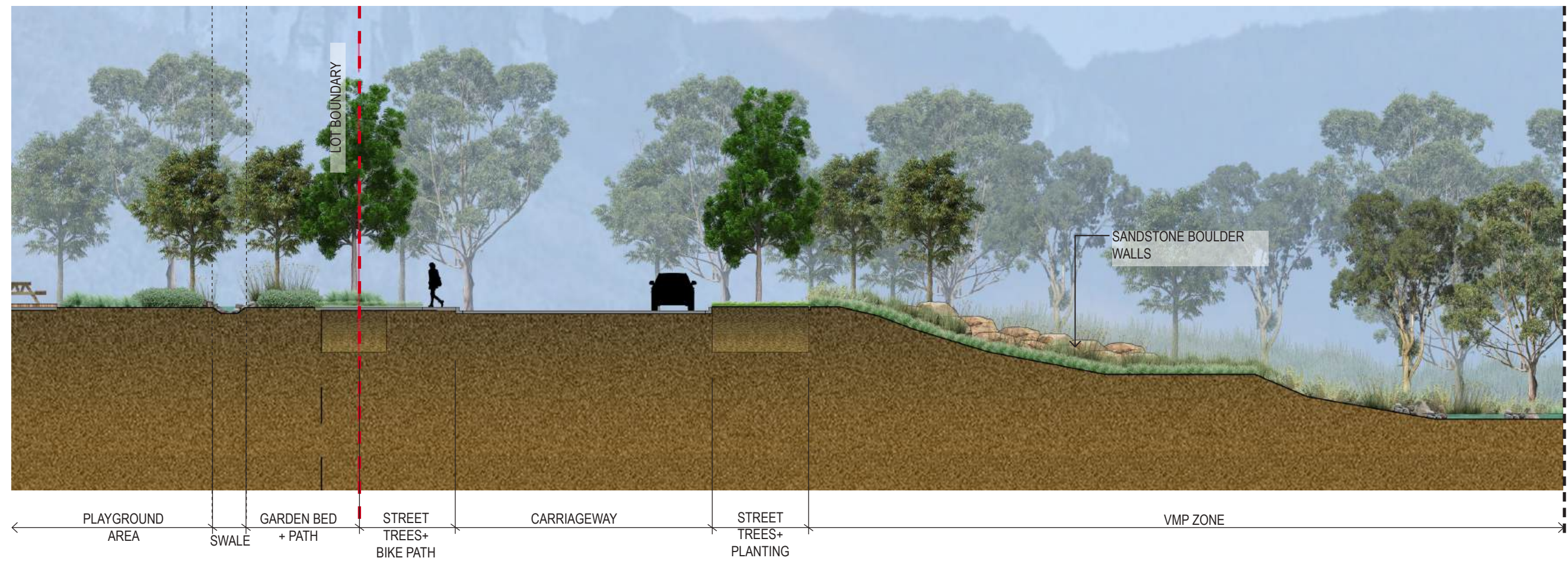
01 LANDSCAPE SECTION C-C
Scale 1:200@A3

CLIENT	HODGE DEVELOPMENT PTY LTD		
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW		
DRAWING TITLE	LANDSCAPE SECTION C-C		
			
SCALE	1:200 @ A3		
DRAWN	CHECKED		
KM / DF / GP	DV		
PROJECT NO.	DRAWING NO.	REVISION	
H8-24016-2	L18	M	
LANDSCAPE ARCHITECT			

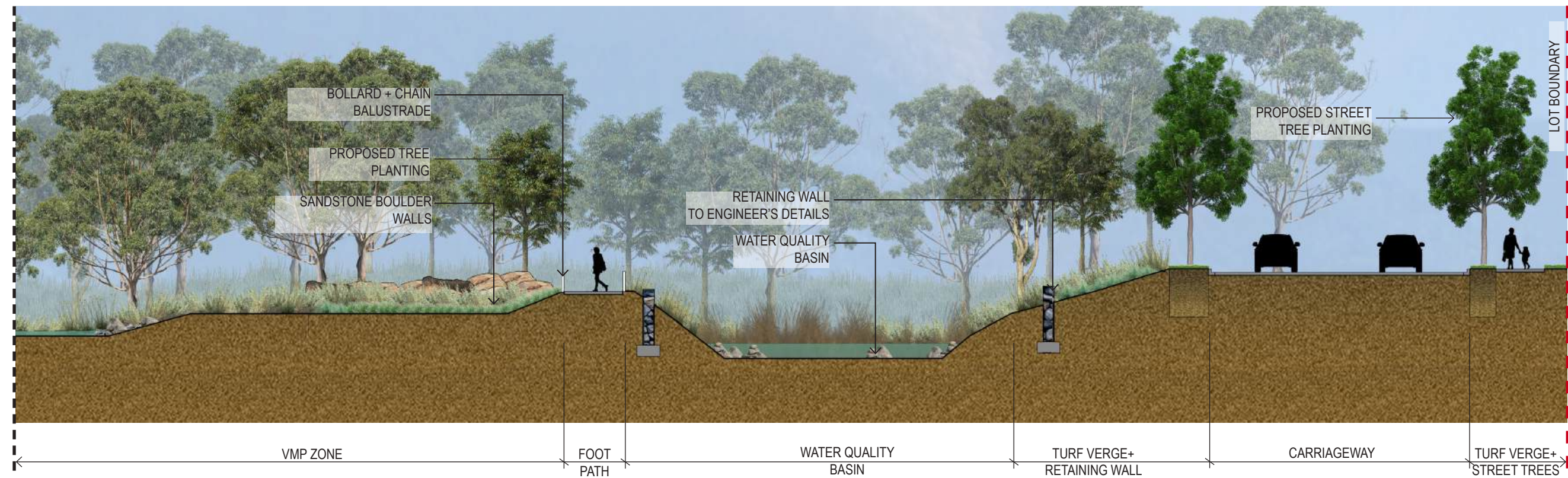


LANDSCAPE SECTION D-D

ISSUE	DATE	PURPOSE
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B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN

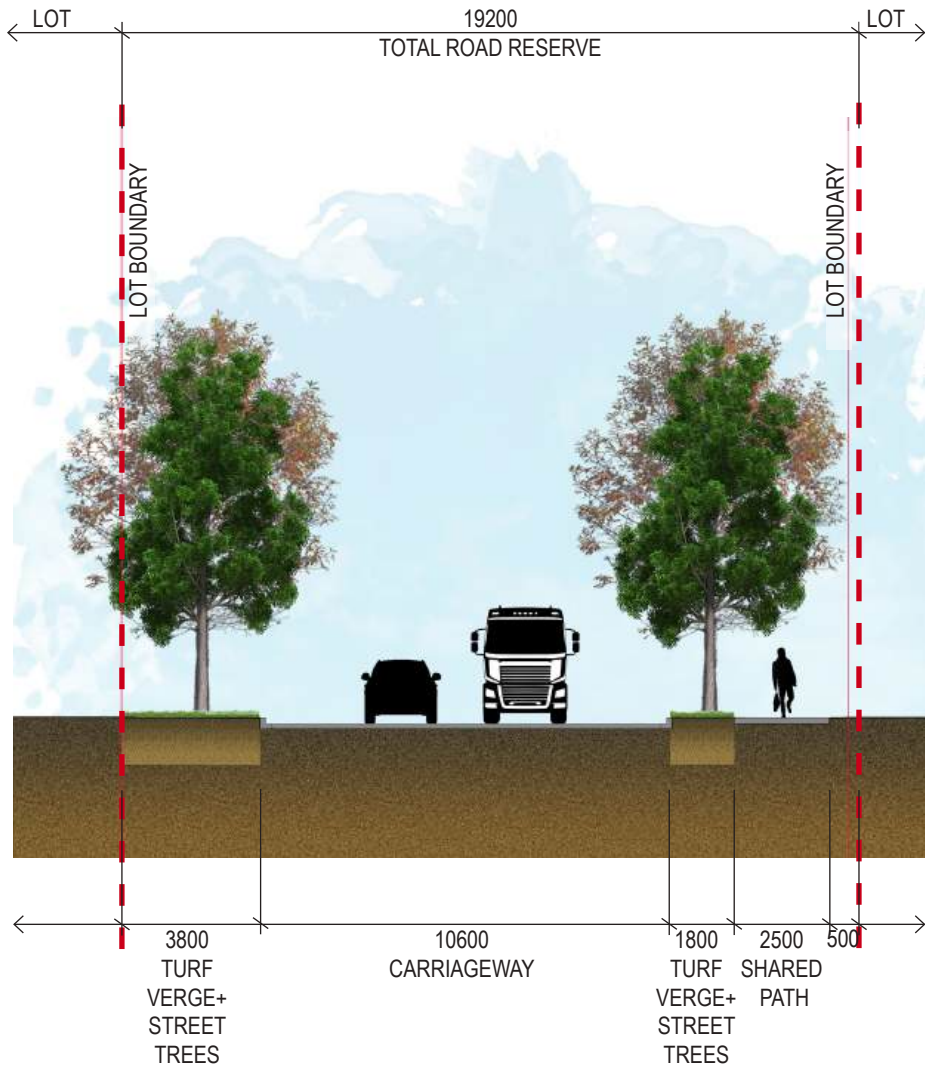


CLIENT	HODGE DEVELOPMENT PTY LTD		
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW		
DRAWING TITLE	LANDSCAPE SECTION D-D		
			
SCALE	1:200 @ A3		
DRAWN	CHECKED		
KM / DF / GP	DV		
PROJECT NO.	DRAWING NO.	REVISION	
H8-24016-2	L19	M	
LANDSCAPE ARCHITECT			

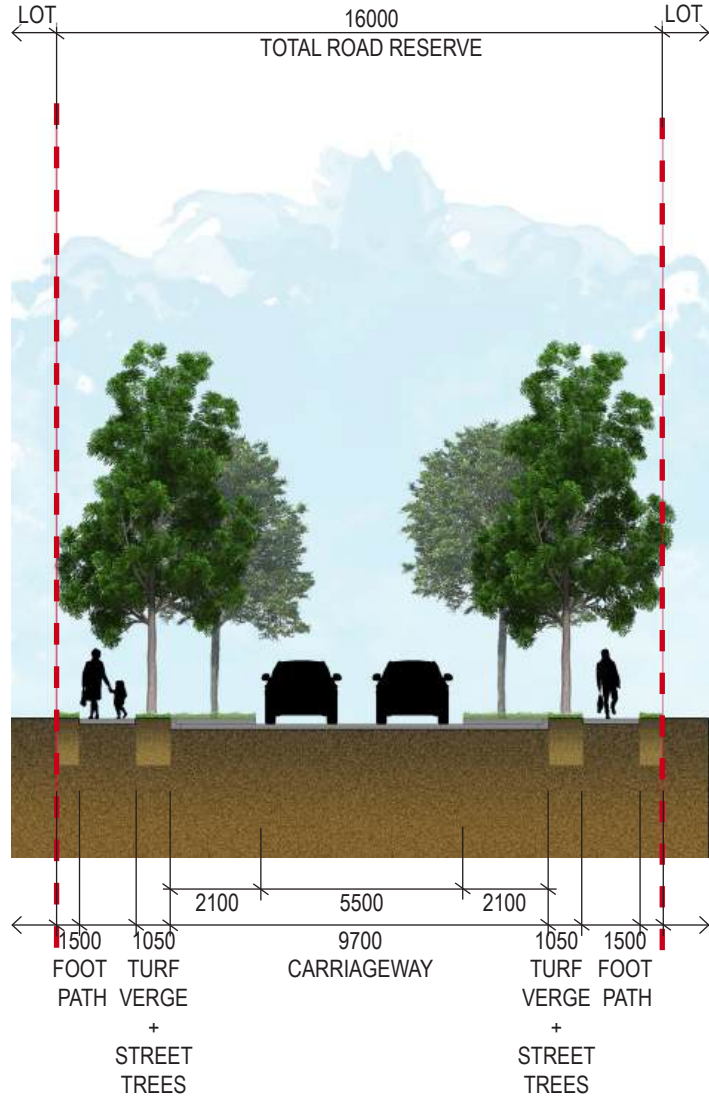
LANDSCAPE SECTION E-E: CENTRAL SPINE

LANDSCAPE SECTION F-F: INFILL + RING ROAD

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
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J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



01 LANDSCAPE SECTION E-E
Scale 1:200@A3



02 LANDSCAPE SECTION F-F
Scale 1:200@A3



KEYPLAN



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
SECTION E-E:CENTRAL SPINE
SECTION F-F:INFILL + RING
ROAD

SCALE
1:200 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L20

REVISION
M

LANDSCAPE ARCHITECT

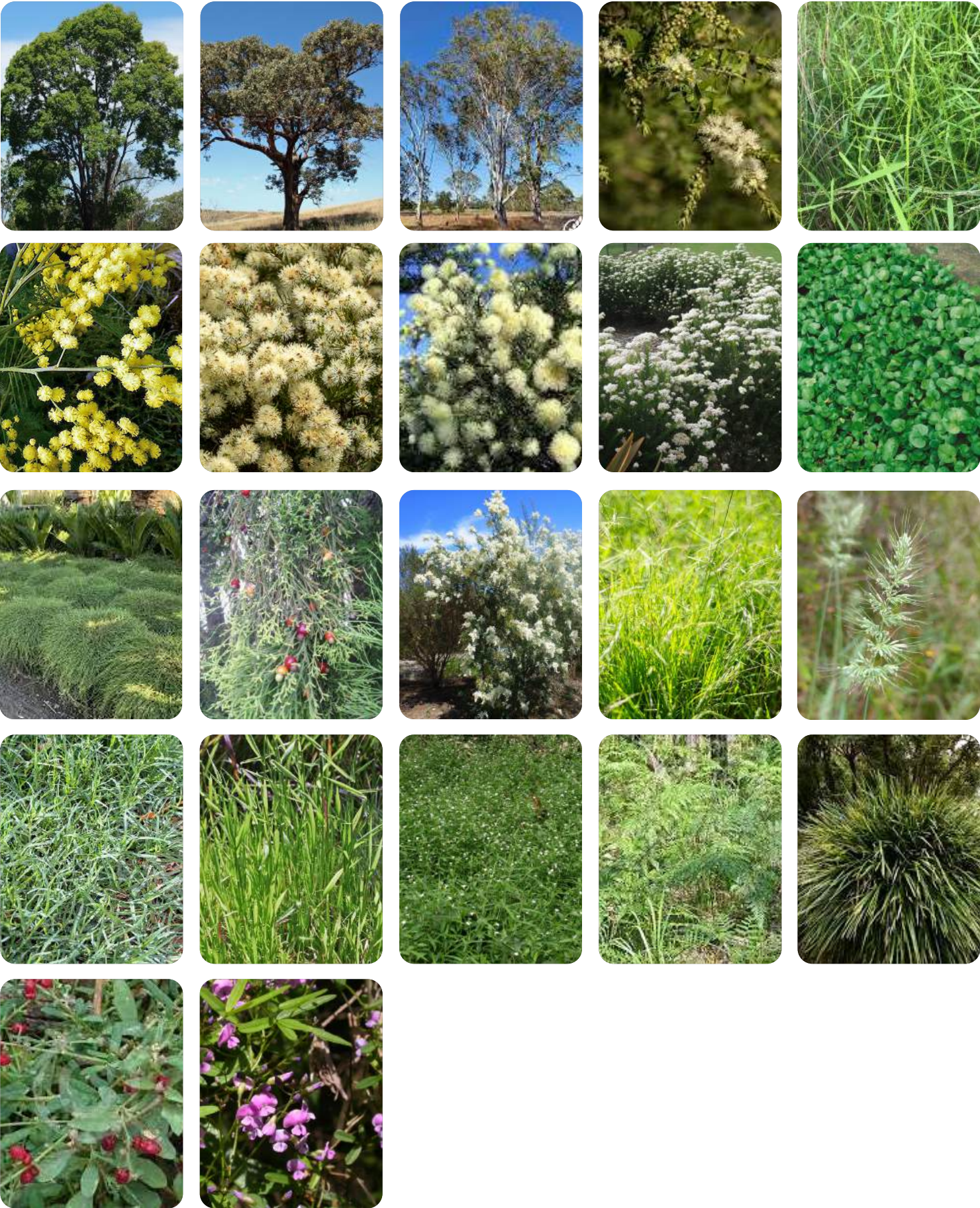


INDICATIVE PLANT PALETTE (RE-VEGETATION ZONES) 01

PLANT LIST (PCT 4024)

SPECIES		COMMON NAME
TREES	<i>Angophora floribunda</i>	ROUGH BARKED APPLE
	<i>Eucalyptus baueriana</i>	ROUND-LEAVED BOX
	<i>Eucalyptus tereticornis</i>	FOREST RED GUM
SHRUBS	<i>Acacia decurrens</i>	EARLY GREEN WATTLE
	<i>Melaleuca nodosa</i>	PRICKLY-LEAVED PAPERBANK
	<i>Melaleuca decoea</i>	WHITE FEATHER HONEYMYRTLE
	<i>Melaleuca styphelioides</i>	PRICKLY PAPERBANK
	<i>Casuarinia glauca</i>	SWAMP SHE-OAK
	<i>Exocarpus cupressiformis</i>	NATIVE CHERRY
	<i>Bursaria spinosa</i>	AUSTRALIAN BLACKTHORN
GROUNDCOVERS	<i>Ozothamnus diosmifolius</i>	SAGO BUSH
	<i>Microlaena stipoides</i>	WEEPING MEADOW GRASS
	<i>Entolasia marginata</i>	BORDERED PANIC GRASS
	<i>Cynodon dactylon</i>	BERMUDA GRASS
	<i>Echinopogon ovatus</i>	COMMON HEDGEHOG-GRASS
	<i>Lobelia purpurascens</i>	WHITE ROOT
	<i>Pteridium esculentum</i>	BRACKEN FERN
	<i>Dichondra repens</i>	KIDNEY WEED
	<i>Einadia hastata</i>	BERRY SALTBUSH
	<i>Glycine clandestina</i>	TWINING GLYCINE
	<i>Lomandra longifolia</i>	SPINY-HEAD MAT RUSH
	<i>Echinopogon caespitosus</i>	BUSHY HEDGEHOG GRASS

PLANT IMAGERY



ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
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K	28.03.25	CLIENT REVIEW
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M	03.04.25	CLIENT REVIEW

CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**INDICATIVE PLANT PALETTE
(RE-VEGETATION ZONES) 01**

SCALE
NTS
DRAWN
KM / DF / GP
PROJECT NO.
H8-24016-2

CHECKED
DV
DRAWING NO.
L22

REVISION
M

LANDSCAPE ARCHITECT



INDICATIVE PLANT PALETTE (RE-VEGETATION ZONES) 02

PLANT LIST (PCT 4059)

SPECIES		COMMON NAME
TREES	<i>Eucalyptus resinifera</i>	RED MAHOGANY
	<i>Angophora floribunda</i>	ROUGH BARKED APPLE
	<i>Eucalyptus punctata</i>	GREY GUM
	<i>Eucalyptus sclerophylla</i>	SCRIBBLY GUM
	<i>Melaleuca linariifolia</i>	NARROW-LEAVED PAPERBANK
	<i>Allocasuarina littoralis</i>	BLACK SHE-OAK
SHRUBS	<i>Leptospermum polygalifolium</i>	JELLYBUSH
	<i>Polyscias sambucifolia</i>	ELDERBERRY PANAX
	<i>Dodonaea triquetra</i>	LARGE LEAF HOP BUSH
	<i>Acacia floribunda</i>	GOSSAMER WATTLE
	<i>Acacia longifolia</i>	LONG-LEAVED WATTLE
	<i>Acacia parramattensis</i>	PARRAMATTA WATTLE
	<i>Banksia spinulosa</i>	HAIRPIN BANKSIA
	<i>Bursaria spinosa</i>	AUSTRALIAN BLACKTHORN
	<i>Melaleuca thymifolia</i>	THYME HONEY-MYRTLE
	<i>Epacris pulchella</i>	WALLUM HEATH
GROUNDCOVERS	<i>Hibbertia aspera</i>	ROUGH GUINEA FLOWER
	<i>Imperata cylindrica</i>	COGONGRASS
	<i>Entolasia marginata</i>	BORDERED PANIC GRASS
	<i>Microlaena stipoides</i>	WEeping RICE GRASS
	<i>Poa affinis</i>	TUSsock GRASS
	<i>Echinopogon caespitosus</i>	BUSHY HEDGEHOG GRASS
	<i>Oplismenus aemulus</i>	CREeping BEARD GRASS
	<i>Pteridium esculentum</i>	BRACKEN FERN
	<i>Lomandra longifolia</i>	SPINY-HEAD MAT RUSH
	<i>Lobelia purpurascens</i>	WHITE ROOT
	<i>Dianella caerulea</i>	BLUE FLAX-LILY
	<i>Dichondra repens</i>	KIDNEY WEED
	<i>Glycine microphylla</i>	SMALL-LEAF GLYCINE

PLANT IMAGERY



ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
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K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW

CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**INDICATIVE PLANT PALETTE
(RE-VEGETATION ZONES) 02**

SCALE
NTS
DRAWN
KM / DF / GP
PROJECT NO.
H8-24016-2

CHECKED
DV
DRAWING NO.
L23

REVISION
M

LANDSCAPE ARCHITECT



PARK AND PLAYGROUND - LANDSCAPE CONCEPT PLAN

DESIGN NOTES

- 1. BIKE PATH
- 2. SEATING AREA WITH ROOF OVER
- 3. TURF AREA
- 4. OPEN SPACE (PASSIVE ZONE)
- 5. SANDSTONE CUBE SEATS
- 6. FEATURE PAVING
- 7. BRIDGE OVER SWALE
- 8. PLANTED MOUNDS
- 9. REUSE SANDSTONE BOULDERS
- 10. PROPOSED BUS BAY
- 11. BUSH PATH
- 12. RESIDENTIAL LOTS
- 13. PIT, BASIN, & PLANTING
- 14. BUSH TUCKER PLANTING

15. INTERPRETIVE SIGNAGE

- A. LOG / BALANCE MAZE
- B. SINGLE BAY SWING (BY RUSTIK)
- C. PIPE FACTORY PLAY STRUCTURE (BY FLEETWOOD)
- D. 2.5 M WIDE DRY CREEK BED
- D1. DECK, PERGOLA, & SEATING

NOTE:
TREES TO BE CLEAR OF EQUIPMENT AND FALL ZONES

KEY

SITE BOUNDARY

TURF SWALE

PROPOSED TREE PLANTING

TURF

GARDEN BEDS

EXPOSED AGGREGATE CONCRETE (BIKE PATH)

COMPACTED DECO-GRANITE SURFACE

SOFTFALL SURFACE

BRIDGE / DECK

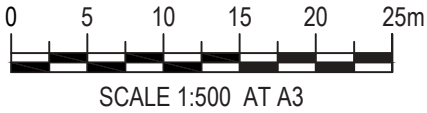
WAYFINDING SIGNAGE



ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
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K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT	HODGE DEVELOPMENT PTY LTD		
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW		
DRAWING TITLE	PARK AND PLAYGROUND LANDSCAPE CONCEPT PLAN		
SCALE	1:500 @A3		
DRAWN	CHECKED		
KM / DF / GP	DV		
PROJECT NO.	DRAWING NO.	REVISION	
H8-24016-2	L24	M	
LANDSCAPE ARCHITECT			



PARK AND PLAYGROUND - EQUIPMENT IMAGERY

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
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I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW

A



B



C



D

BRIDGE



D1

DRY CREEK BED



E

TALAGANDA SINGLE (BY RUSTIK)



F

YARNING CIRCLE



- A. LOG / BALANCE MAZE
- B. SINGLE BAY SWING (BY RUSTIK)
- C. PUBLIC ART FURNITURE / PLAY PIECE
- D. BRIDGE
- D1. 2.5 M WIDE DRY CREEK BED
- E. TALAGANDA SINGLE (BY RUSTIK)
- F. YARNING CIRCLE

CLIENT	HODGE DEVELOPMENT PTY LTD		
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW		
DRAWING TITLE	PARK AND PLAYGROUND EQUIPMENT IMAGERY		
SCALE	NTS		
DRAWN	CHECKED		
KM / DF / GP	DV		
PROJECT NO.	DRAWING NO.	REVISION	
H8-24016-2	L25	M	
LANDSCAPE ARCHITECT			



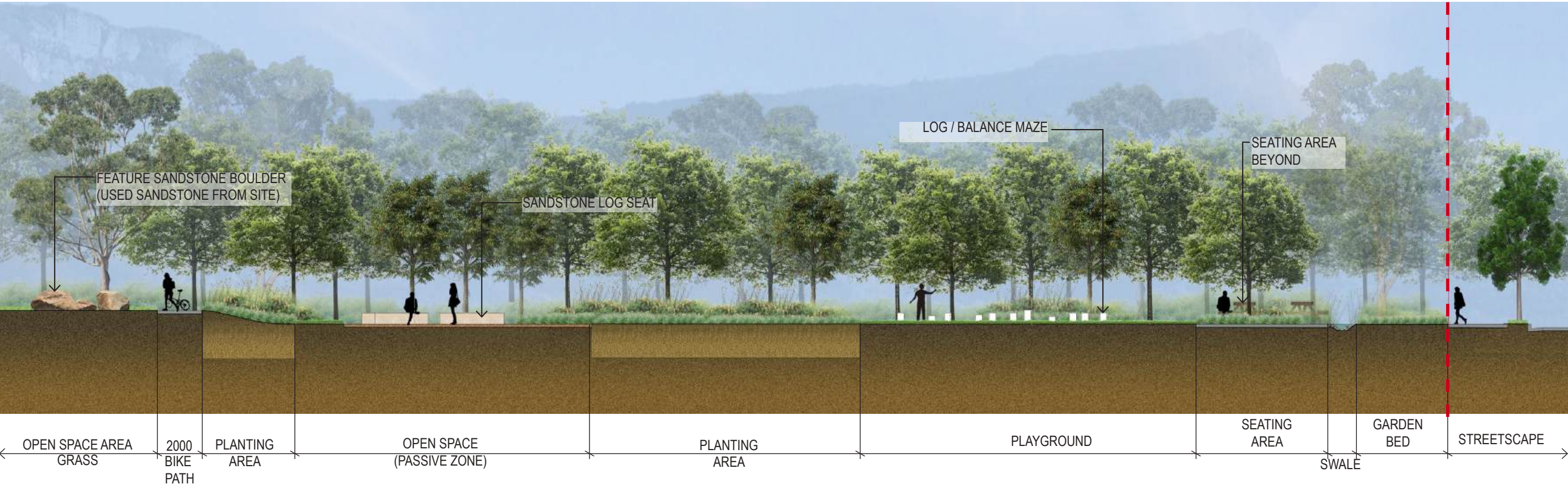
PARK AND PLAYGROUND:

LANDSCAPE SECTION A-A

ISSUE	DATE	PURPOSE
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B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
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J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**PARK AND PLAYGROUND
SECTION A-A**

SCALE
1:200 @ A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L26

REVISION
M

LANDSCAPE ARCHITECT



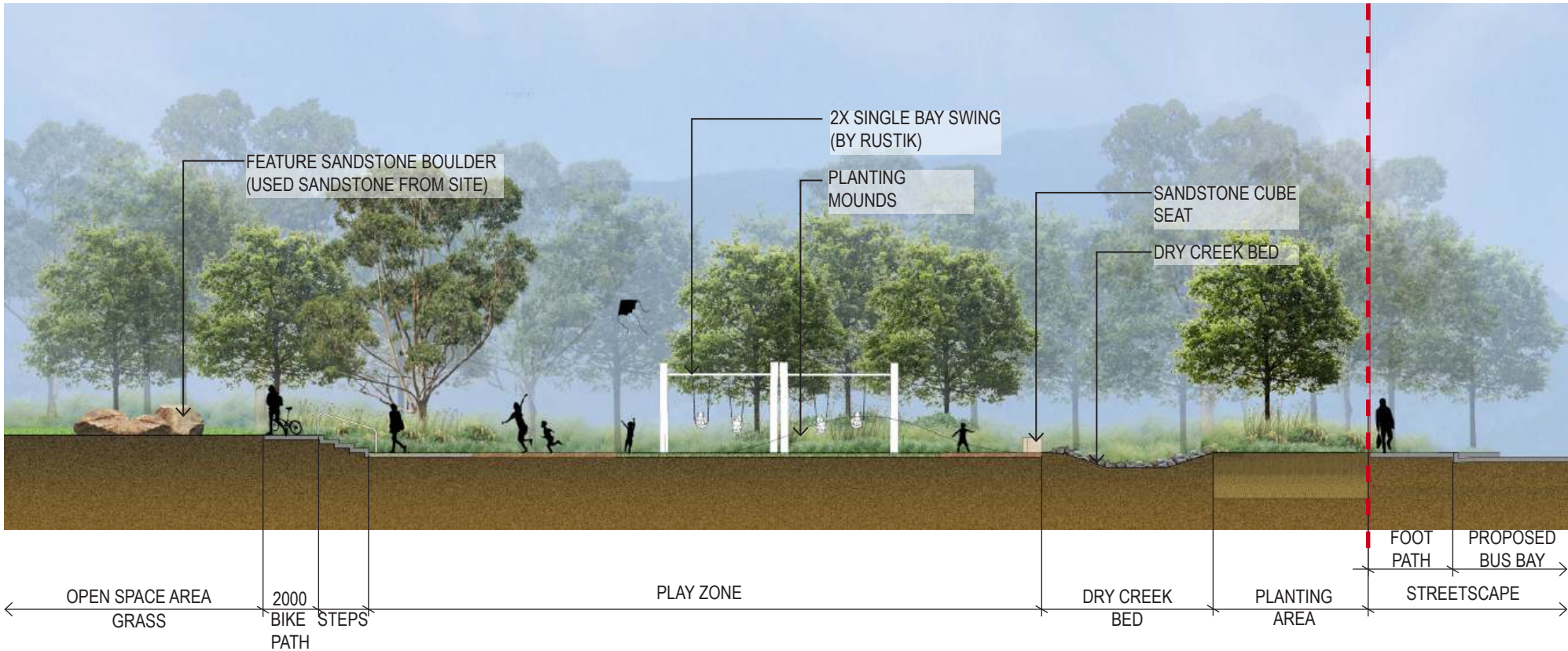
PARK AND PLAYGROUND:

LANDSCAPE SECTION B-B

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
H	28.02.25	CLIENT REVIEW
I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN



CLIENT

HODGE
DEVELOPMENT
PTY LTD

PROJECT

PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE

PARK AND PLAYGROUND
SECTION B-B

SCALE

1:200 @ A3

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PROJECT NO. DRAWING NO. REVISION
H8-24016-2 L27 M

LANDSCAPE ARCHITECT



PLEASURE POINT PARK AND PLAYGROUND

ARTIST'S IMPRESSION 01

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
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K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN

CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
**PARK AND PLAYGROUND
ARTIST'S IMPRESSION 01**

SCALE
NTS
DRAWN
KM / DF / GP
PROJECT NO.
H8-24016-2

CHECKED
DV
DRAWING NO.
L28

REVISION
M

LANDSCAPE ARCHITECT



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PLEASURE POINT PARK AND PLAYGROUND

ARTIST'S IMPRESSION 02

ISSUE	DATE	PURPOSE
A	24.05.24	CLIENT REVIEW
B	05.06.24	CLIENT REVIEW
C	07.06.24	CLIENT REVIEW
D	12.06.24	CLIENT REVIEW
E	19.08.24	CLIENT REVIEW
F	20.08.24	CLIENT REVIEW
G	29.08.24	CLIENT REVIEW
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I	05.03.25	CLIENT REVIEW
J	25.03.25	CLIENT REVIEW
K	28.03.25	CLIENT REVIEW
L	01.04.25	CLIENT REVIEW
M	03.04.25	CLIENT REVIEW



KEYPLAN

CLIENT	HODGE DEVELOPMENT PTY LTD		
PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW		
DRAWING TITLE	PARK AND PLAYGROUND ARTIST'S IMPRESSION 02		
SCALE	NTS		
DRAWN	CHECKED		
KM / DF / GP	DV		
PROJECT NO.	DRAWING NO.	REVISION	
H8-24016-2	L29	M	
LANDSCAPE ARCHITECT			



INDICATIVE PLANT PALETTE : PARK AND PLAYGROUND

PLANT IMAGERY

TURF SWALE TREES



Casuarina glauca
SWAMP SHEOAK



Acacia parramattensis
SYDNEY GREEN WATTLE

OPEN SPACE AREA TREES



Flindersia australis
CROW'S ASH



Lophostemon confertus
BRUSH BOX

SHRUBS, GROUNDCOVERS & GRASSES



Callistemon viminalis
'Little John'



Callistemon viminalis
'White Anzac'



Banksia spinulosa
HAIRPIN BANKSIA



Doryanthes excelsa
GYMEA LILY



Grevillea 'Poorinda Royal
Mantle'



Hardenbergia violacea
FALSE SARSAPARILLA



Actinotus helianthi
FLANNEL FLOWER



Dianella revoluta
MAUVE FLAX LILY



Poa labillardierei
TUSSOCK



Dianella caerulea
BLUE FLAX LILY

CLIMBERS & CASCADING PLANTS



Casuarina glauca 'Cousin
It'



Pandorea pandorana
WONGA VINE



Dichondra argentea 'Silver
Falls'



Trachelospermum jasmi-
noides



Pittosporum 'Miss
Muffet'



Raphiolepis indica 'Snow
Maiden'

PLAYGROUND TREES



Angophora costata
SMOOTH BARKED APPLE



Ficus rubiginosa
RUSTY FIG



Elaeocarpus reticulatus
BLUEBERRY ASH

PLANT LIST

SPECIES		COMMON NAME	HEIGHT (M)	WIDTH (M)
TREES	Casuarina glauca	SWAMP SHEOAK	10	8
	Acacia parramattensis	SYDNEY GREEN WATTLE	10	8
	Angophora costata	SMOOTH BARKED APPLE	12	10
	Ficus rubiginosa	RUSTY FIG	10	10
	Elaeocarpus reticulatus	BLUEBERRY ASH	8	6
	Eucalyptus piperita	SYDNEY PEPPERMINT	12	15
	Flindersia australis	CROW'S ASH	10	6
	Lophostemon confertus	BRUSH BOX	12	8
SHRUBS, GROUNDCOVERS & GRASSES	Callistemon viminalis 'Little John'	BOTTLEBRUSH	1	1
	Callistemon viminalis 'White Anzac'	BOTTLEBRUSH	1	3
	Banksia spinulosa	HAIRPIN BANKSIA	1-1.5	1-1.5
	Doryanthes excelsa	GYMEA LILY	2-4	2-3
	Grevillea 'Poorinda Royal Mantle'	GREVILLEA	0.5	6
	Hardenbergia violacea	FALSE SARSAPARILLA	0.4	2
	Actinotus helianthi	TRAILING GUINEA-FLOWER	0.6	2
	Dianella revoluta	MAUVE FLAX LILY	0.5	0.65
	Poa labillardierei	TUSSOCK	1.2	0.5
	Dianella caerulea	BLUE FLAX LILY	0.45	0.45
CLIMBERS	Pittosporum tobira "Miss Muffet"*	MISS MUFFET	1	1.5
	Raphiolepis indica 'Snow Maiden'*	INDIAN HAWTHORN	0.6	0.5
	Casuarina glauca 'Cousin It'	SHE-OAK	0.15	1
	Pandorea pandorana	WONGA VINE	6	6
	Dichondra argentea 'Silver Falls'*	SILVER NICKLE VINE	0.1	1.5
Hibbertia empetrifolia		TRAILING GUINEA-FLOWER	0.6	2

*Exotic species

ISSUE	DATE	PURPOSE
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M	03.04.25	CLIENT REVIEW

CLIENT	HODGE DEVELOPMENT PTY LTD
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PROJECT	PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW
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DRAWING TITLE	INDICATIVE PLANT PALETTE
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SCALE	NTS
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DRAWN	CHECKED
KM / DF / GP	DV

PROJECT NO.	DRAWING NO.	REVISION
H8-24016-2	L30	M

LANDSCAPE ARCHITECT



Appendix B Profiles of plant community types

Profiles of PCTs 4024, 4028 and 4059 recorded by AEP (2024) within the VMP area are provided here based on Bionet records. Species characteristic of PCTs 4024 and 4059 are listed to assist revegetation efforts. The landscape plans (Appendix A) feature species to be planted in each management zone based on the dominant species characteristic of these PCTs. If species identified on the landscape plan are unavailable due to supply issues, then alternative species can be selected from the tables below.

Vegetation condition benchmarks are maintained within the BioNet vegetation classification data collection. The benchmarks describe the reference state to which sites are compared to score their site-scale biodiversity values or set goals for management or restoration. The primary attributes of biodiversity; composition, structure and function are described by benchmarks. When scores for composition (richness), structure (cover) and function (logs, litter and large trees) are combined into a vegetation integrity score, they provide the rigour and transparency needed to make site-scaled comparisons of biodiversity values to inform natural resource management decision making tools such as the Biodiversity Assessment Method (BAM).

Bionet benchmark conditions for the three PCTs are as follows:

PCT benchmark conditions (Bionet)

PCTID	Tree Richness	Shrub Richness	Grass Richness	Forb Richness	Fern Richness	Other Richness	Tree Cover	Shrub Cover	Grass Cover	Forb Cover	Fern Cover	Other Cover	Total length of fallen logs	Litter Cover	Number of Large Trees	Large Tree Threshold Size
4059	4	8	8	8	2	4	21	21	69	3	1	1	12	40	1	50
4028	4	8	8	8	2	4	21	21	69	3	1	1	12	40	1	50
4024	4	8	8	8	2	4	21	21	69	3	1	1	12	40	1	50

PCT 4024: Cumberland Blue Box Riverflat Forest

Vegetation Formation - Forested Wetlands

Vegetation Class - Coastal Floodplain Wetlands

IBRA - Sydney Basin

IBRA Subregion - Cumberland; Sydney Cataract

Bionet description

'A tall sclerophyll open forest with soft-leaved shrubs, small trees and *Melaleucas* with a grassy ground cover situated on the alluvial flats below 30 metres asl alongside the Georges River near Voyagers Point with smaller occurrences at Cobbitty and Richmond on the Hawkesbury-Nepean river systems. The canopy very frequently includes *Eucalyptus baueriana* and *Angophora floribunda*, commonly associated with *Eucalyptus tereticornis*. The open to mid-dense mid-stratum is layered and almost always includes acacias and very frequently melaleucas, the most frequent of which are *Acacia decurrens*, *Melaleuca nodosa*, *Melaleuca decora* and *Melaleuca styphelioides*. Scattered individuals of *Casuarina glauca*, *Exocarpos cupressiformis*, *Bursaria spinosa* and *Ozothamnus diosmifolius* commonly complete the mid-stratum. The ground layer is typically characterised by an dense cover of grasses, soft-leaved forbs and ferns that almost always includes *Microlaena stipoides* and *Entolasia marginata*. Common ground covers include *Cynodon dactylon*, *Echinopogon ovatus*, *Lobelia purpurascens*, *Pteridium esculentum*, *Dichondra repens*, *Einadia hastata*, *Glycine clandestina*, *Lomandra longifolia* and *Echinopogon caespitosus*. This PCT typically occurs at elevations of below 30 metres asl in a warm, moist climate, often in small, disturbed patches situated in an urban matrix. It has floristic overlap with PCT 4025 however *Eucalyptus baueriana* and species such as *Casuarina glauca* and *Cynodon dactylon* are rare in that PCT.'

Characteristic species for PCT 4024 (BioNet 2024)

Form	Scientific Name
Tree	<i>Acacia decurrens</i>
Tree	<i>Angophora floribunda</i>
Tree	<i>Eucalyptus baueriana</i>
Tree	<i>Casuarina glauca</i>
Tree	<i>Eucalyptus tereticornis</i>
Tree	<i>Grevillea robusta</i>
Tree	<i>Eucalyptus crebra</i>
Tree	<i>Eucalyptus moluccana</i>
Tree	<i>Notelaea longifolia</i>
Tree	<i>Eucalyptus amplifolia</i>
Tree	<i>Eucalyptus saligna</i>
Tree	<i>Allocasuarina littoralis</i>
Tree	<i>Avicennia marina</i> subsp. <i>australasica</i>
Tree	<i>Banksia integrifolia</i>
Tree	<i>Eucalyptus eugenioides</i>
Tree	<i>Eucalyptus paniculata</i>

Form	Scientific Name
Tree	<i>Eucalyptus sideroxylon</i>
Tree	<i>Lophostemon confertus</i>
Shrub	<i>Bursaria spinosa</i>
Shrub	<i>Ozothamnus diosmifolius</i>
Shrub	<i>Exocarpos cupressiformis</i>
Shrub	<i>Hibbertia diffusa</i>
Shrub	<i>Melaleuca nodosa</i>
Shrub	<i>Denhamia silvestris</i>
Shrub	<i>Goodenia ovata</i>
Shrub	<i>Jacksonia scoparia</i>
Shrub	<i>Persoonia linearis</i>
Shrub	<i>Calotis dentex</i>
Shrub	<i>Leucopogon juniperinus</i>
Shrub	<i>Pittosporum undulatum</i>
Shrub	<i>Trema tomentosa</i> var. <i>aspera</i>
Shrub	<i>Breynia oblongifolia</i>
Shrub	<i>Melaleuca decora</i>
Shrub	<i>Melaleuca styphelioides</i>
Shrub	<i>Polyscias sambucifolia</i>
Shrub	<i>Pultenaea villosa</i>
Shrub	<i>Acacia floribunda</i>
Shrub	<i>Acacia implexa</i>
Shrub	<i>Acacia longifolia</i>
Shrub	<i>Aegiceras corniculatum</i>
Shrub	<i>Backhousia myrtifolia</i>
Shrub	<i>Correa reflexa</i>
Shrub	<i>Dodonaea triquetra</i>
Shrub	<i>Hibbertia aspera</i>
Shrub	<i>Hibiscus heterophyllus</i> subsp. <i>heterophyllus</i>
Shrub	<i>Indigofera australis</i>
Shrub	<i>Leptospermum polygalifolium</i>
Shrub	<i>Lissanthe strigosa</i>
Shrub	<i>Nematolepis squamea</i> subsp. <i>squamea</i>
Shrub	<i>Pimelea linifolia</i>
Fern	<i>Pteridium esculentum</i>
Fern	<i>Adiantum aethiopicum</i>
Fern	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
Grass	<i>Entolasia marginata</i>
Grass	<i>Microlaena stipoides</i>
Grass	<i>Cynodon dactylon</i>
Grass	<i>Echinopogon caespitosus</i>
Grass	<i>Echinopogon ovatus</i>
Grass	<i>Lomandra longifolia</i>
Grass	<i>Digitaria parviflora</i>
Grass	<i>Dichelachne micrantha</i>

Form	Scientific Name
Grass	<i>Entolasia stricta</i>
Grass	<i>Oplismenus aemulus</i>
Grass	<i>Cymbopogon refractus</i>
Grass	<i>Cyperus laevis</i>
Grass	<i>Gahnia aspera</i>
Grass	<i>Juncus usitatus</i>
Grass	<i>Lepidosperma laterale</i>
Grass	<i>Aristida vagans</i>
Grass	<i>Austrostipa ramosissima</i>
Grass	<i>Baumea juncea</i>
Grass	<i>Carex appressa</i>
Grass	<i>Eragrostis leptostachya</i>
Grass	<i>Imperata cylindrica</i>
Grass	<i>Juncus kraussii</i> subsp. <i>australiensis</i>
Grass	<i>Oplismenus imbecillis</i>
Grass	<i>Panicum simile</i>
Grass	<i>Paspalidium distans</i>
Grass	<i>Phragmites australis</i>
Grass	<i>Poa affinis</i>
Grass	<i>Poa labillardierei</i> var. <i>labillardierei</i>
Grass	<i>Rytidosperma racemosum</i>
Grass	<i>Sporobolus creber</i>
Grass	<i>Themeda triandra</i>
Forb	<i>Lobelia purpurascens</i>
Forb	<i>Dichondra repens</i>
Forb	<i>Einadia hastata</i>
Forb	<i>Commelina cyanea</i>
Forb	<i>Dianella longifolia</i>
Forb	<i>Oxalis exilis</i>
Forb	<i>Solanum prinophyllum</i>
Forb	<i>Veronica plebeia</i>
Forb	<i>Senecio hispidulus</i>
Forb	<i>Brunoniella australis</i>
Forb	<i>Centella asiatica</i>
Forb	<i>Dianella caerulea</i>
Forb	<i>Dianella revoluta</i>
Forb	<i>Hydrocotyle sibthorpioides</i>
Forb	<i>Pseuderanthemum variabile</i>
Forb	<i>Tetragonia tetragonioides</i>
Forb	<i>Wahlenbergia gracilis</i>
Forb	<i>Geranium homeanum</i>
Forb	<i>Solanum americanum</i>
Forb	<i>Arthropodium milleflorum</i>
Forb	<i>Asperula conferta</i>
Forb	<i>Caesia parviflora</i>

Form	Scientific Name
Forb	<i>Galium leiocarpum</i>
Forb	<i>Gonocarpus tetragynus</i>
Forb	<i>Gonocarpus teucroides</i>
Forb	<i>Hydrocotyle laxiflora</i>
Forb	<i>Hypericum gramineum</i>
Forb	<i>Lepidium pseudohyssopifolium</i>
Forb	<i>Lobelia anceps</i>
Forb	<i>Opercularia aspera</i>
Forb	<i>Opercularia diphylla</i>
Forb	<i>Oxalis perennans</i>
Forb	<i>Pelargonium inodorum</i>
Forb	<i>Poranthera microphylla</i>
Forb	<i>Rumex brownii</i>
Forb	<i>Scutellaria humilis</i>
Forb	<i>Stellaria flaccida</i>
Forb	<i>Tricoryne elatior</i>
Forb	<i>Vernonia cinerea</i>
Other	<i>Glycine clandestina</i>
Other	<i>Clematis glycinoides</i>
Other	<i>Glycine tabacina</i>
Other	<i>Glycine microphylla</i>
Other	<i>Billardiera scandens</i>
Other	<i>Cayratia clematidea</i>
Other	<i>Tylophora barbata</i>
Other	<i>Desmodium varians</i>
Other	<i>Hardenbergia violacea</i>
Other	<i>Kennedia rubicunda</i>
Other	<i>Cassytha pubescens</i>
Other	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>
Other	<i>Parsonsia straminea</i>
Other	<i>Polymeria calycina</i>

PCT 4059: Sydney Hinterland Sandy Creekflat Shrub Forest

Vegetation Formation - Forested Wetlands

Vegetation Class - Coastal Floodplain Wetlands

IBRA - Sydney Basin

IBRA Subregion - Cumberland; Sydney Cataract; Yengo

Bionet description

This placeholder PCT is a moist shrubby sclerophyll open forest restricted to areas of damp sandy creekline colluvium/alluvium, subject to intermittent waterlogging on sandstone plateaus and creek flats draining to larger rivers on the south-east and northern rims of the Cumberland Plain. Caution is required in the evaluation and assignment of new plots to this PCT. This PCT occurs at elevations of 10-200 metres asl in areas receiving 850-1100 mm mean annual rainfall. A tall to very tall tree canopy very frequently includes *Eucalyptus resinifera*, occasionally with *Angophora floribunda*, along with trees more typical of adjacent habitats such as *Eucalyptus punctata* or *Eucalyptus sclerophylla*. A sub-canopy of scattered to dense *Melaleuca linariifolia* is almost always present, with occasional *Allocasuarina littoralis*. A mid-dense to sparse shrub stratum very frequently includes scattered *Leptospermum polygalifolium*, commonly with *Polyscias sambucifolia* and *Dodonaea triquetra*, occasionally with tall *Acacia* species (*Acacia floribunda*, *Acacia longifolia*, *Acacia parramattensis*), *Banksia spinulosa*, *Bursaria spinosa*, *Melaleuca thymifolia*, and smaller *Epacris pulchella* or *Hibbertia aspera*. The mid-dense to dense ground layer is typically dominated by grasses and ferns. Grasses almost always include *Imperata cylindrica*, very frequently *Entolasia marginata*, *Microlaena stipoides* and *Poa affinis*, commonly with *Echinopogon caespitosus* and *Oplismenus aemulus*. Ferns almost always include *Pteridium esculentum*, commonly with *Adiantum aethiopicum* and *Hypolepis muelleri*. Graminoids and forbs almost always include *Lomandra longifolia* and *Lobelia purpurascens*, very frequently *Centella asiatica* and *Schoenus melanostachys*, commonly with *Dianella caerulea*, *Dichondra repens* and *Glycine microphylla*. This community may be subject to disturbance by weed invasion and altered hydrology where it occurs near roads and drainage structures.'

Characteristic species for PCT 4059 (BioNet 2024)

Form	Scientific Name
Tree	<i>Eucalyptus resinifera</i>
Tree	<i>Acacia parramattensis</i>
Tree	<i>Allocasuarina littoralis</i>
Tree	<i>Angophora floribunda</i>
Tree	<i>Eucalyptus punctata</i>
Tree	<i>Eucalyptus sclerophylla</i>
Tree	<i>Angophora bakeri</i>
Tree	<i>Eucalyptus amplifolia</i>
Tree	<i>Eucalyptus botryoides</i> <--> <i>saligna</i>
Tree	<i>Eucalyptus globoidea</i>
Tree	<i>Eucalyptus haemastoma</i>

Form	Scientific Name
Tree	<i>Eucalyptus pilularis</i>
Tree	<i>Eucalyptus piperita</i>
Tree	<i>Eucalyptus tereticornis</i>
Tree	<i>Notelaea longifolia</i>
Shrub	<i>Melaleuca linariifolia</i>
Shrub	<i>Leptospermum polygalifolium</i>
Shrub	<i>Dodonaea triquetra</i>
Shrub	<i>Polyscias sambucifolia</i>
Shrub	<i>Acacia floribunda</i>
Shrub	<i>Acacia longifolia</i>
Shrub	<i>Banksia spinulosa</i>
Shrub	<i>Bursaria spinosa</i>
Shrub	<i>Epacris pulchella</i>
Shrub	<i>Hibbertia aspera</i>
Shrub	<i>Melaleuca thymifolia</i>
Shrub	<i>Acacia linifolia</i>
Shrub	<i>Acacia parvipinnula</i>
Shrub	<i>Banksia oblongifolia</i>
Shrub	<i>Exocarpos cupressiformis</i>
Shrub	<i>Grevillea mucronulata</i>
Shrub	<i>Hakea sericea</i>
Shrub	<i>Hibbertia diffusa</i>
Shrub	<i>Jacksonia scoparia</i>
Shrub	<i>Kunzea ambigua</i>
Shrub	<i>Leptomeria acida</i>
Shrub	<i>Leptospermum trinervium</i>
Shrub	<i>Leucopogon juniperinus</i>
Shrub	<i>Leucopogon lanceolatus</i>
Shrub	<i>Melaleuca styphelioides</i>
Shrub	<i>Persoonia linearis</i>
Shrub	<i>Phebalium squamulosum</i>
Shrub	<i>Pimelea linifolia</i>
Shrub	<i>Pittosporum undulatum</i>
Shrub	<i>Pomaderris ferruginea</i>
Shrub	<i>Pomaderris intermedia</i>
Shrub	<i>Pomaderris lanigera</i>
Shrub	<i>Pultenaea retusa</i>
Fern	<i>Pteridium esculentum</i>
Fern	<i>Adiantum aethiopicum</i>
Fern	<i>Hypolepis muelleri</i>
Fern	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
Grass	<i>Imperata cylindrica</i>
Grass	<i>Lomandra longifolia</i>
Grass	<i>Entolasia marginata</i>
Grass	<i>Microlaena stipoides</i>

Form	Scientific Name
Grass	<i>Poa affinis</i>
Grass	<i>Schoenus melanostachys</i>
Grass	<i>Echinopogon caespitosus</i>
Grass	<i>Oplismenus aemulus</i>
Grass	<i>Echinopogon ovatus</i>
Grass	<i>Entolasia stricta</i>
Grass	<i>Themeda triandra</i>
Grass	<i>Austrostipa ramosissima</i>
Grass	<i>Digitaria parviflora</i>
Grass	<i>Eragrostis leptostachya</i>
Grass	<i>Gahnia aspera</i>
Grass	<i>Gahnia sieberiana</i>
Grass	<i>Lepidosperma laterale</i>
Grass	<i>Lomandra multiflora</i> subsp. <i>multiflora</i>
Grass	<i>Oplismenus imbecillis</i>
Grass	<i>Panicum simile</i>
Forb	<i>Lobelia purpurascens</i>
Forb	<i>Centella asiatica</i>
Forb	<i>Dianella caerulea</i>
Forb	<i>Dichondra repens</i>
Forb	<i>Senecio hispidulus</i>
Forb	<i>Veronica plebeia</i>
Forb	<i>Viola hederacea</i>
Forb	<i>Boronia polygalifolia</i>
Forb	<i>Commelina cyanea</i>
Forb	<i>Einadia hastata</i>
Forb	<i>Epaltes australis</i>
Forb	<i>Gonocarpus tetragynus</i>
Forb	<i>Gonocarpus teucrioides</i>
Forb	<i>Hydrocotyle sibthorpioides</i>
Forb	<i>Hypericum gramineum</i>
Forb	<i>Lagenophora gracilis</i>
Forb	<i>Opercularia aspera</i>
Forb	<i>Opercularia diphylla</i>
Forb	<i>Pomax umbellata</i>
Forb	<i>Senecio bathurstianus</i>
Forb	<i>Solanum prinophyllum</i>
Forb	<i>Wahlenbergia gracilis</i>
Other	<i>Glycine microphylla</i>
Other	<i>Billardiera scandens</i>
Other	<i>Clematis glycinoides</i>
Other	<i>Clematis aristata</i>
Other	<i>Convolvulus erubescens</i>
Other	<i>Cymbidium suave</i>
Other	<i>Glycine tabacina</i>

Form	Scientific Name
Other	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>
Other	<i>Smilax glyciophylla</i>

PCT 4028: Estuarine Swamp Oak Twig-rush Forest

(Species list not provide for this PCT because revegetation is not proposed)

Vegetation Formation - Forested Wetlands

Vegetation Class - Coastal Floodplain Wetlands

IBRA - NSW North Coast; South East

IBRA Subregion - Coffs Coast and Escarpment; Karuah

Bionet description

'A tall to very tall open forest or woodland featuring *Casuarina glauca* and usually *Baumea juncea* and *Juncus kraussii* subsp. *australiensis*, occurring on the edges of tidal estuarine flats and tidal creek flats along the NSW coast, usually at elevations of below 10 metres asl. *Casuarina glauca* almost always forms a sparse to mid-dense tree layer, rarely accompanied by *Melaleuca quinquenervia*. A sparse or very sparse small tree or scrub layer of *Melaleuca ericifolia* is occasionally present, while other *Melaleuca* species and other trees or shrubs only rarely occur. The mid-dense ground layer is primarily comprised of sedges, rushes, reeds and grasses that are tolerant of inundation, very frequently including *Baumea juncea* and *Juncus kraussii* subsp. *australiensis*, commonly with *Phragmites australis*. Other species occasionally occurring in the ground layer include *Samolus repens*, *Lobelia anceps* and *Gahnia clarkei*, while more rare species include *Sporobolus virginicus*, *Apium prostratum* and *Hemarthria uncinata*, the latter three with variable cover from site to site. This PCT has been recorded from Sawtell south to Tuross Head, however is likely to occur elsewhere along the NSW coast on the margins of brackish water bodies and watercourses. It is floristically related to PCT 4026 which occurs in similar environments, however PCT 4028 has a more consistent cover of *Casuarina glauca* and includes more species that are not tolerant of saline conditions. PCT 4028 occurs at slightly higher elevations than PCT 4026, or further upstream in areas with less frequent inundation. PCT 4028 overlaps spatially in the Hunter region with PCT 4038, with which it also weakly overlaps floristically, however PCT 4038 has thick *Melaleuca nodosa* which is only very rare and very sparse in PCT 4028.'